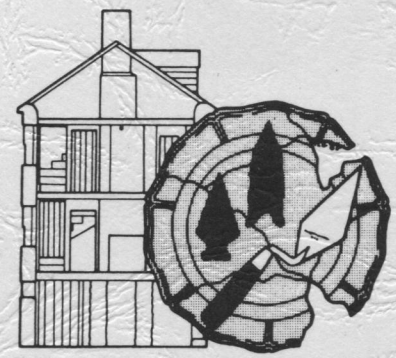
John Mouring



MAAR Associates, Inc.

Cultural Resource Consultants

PHASE I CULTURAL RESOURCE SURVEY
OF THE
PROPOSED OSD INDUSTRIAL COMPLEX SITE
NASA LANGLEY RESEARCH CENTER
HAMPTON, VIRGINIA

By

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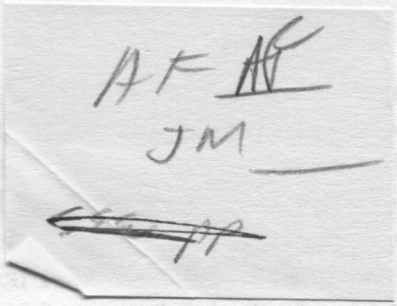

PHASE I CULTURAL RESOURCE SURVEY OF THE PROPOSED OSD INDUSTRIAL COMPLEX SITE NASA LANGLEY RESEARCH CENTER HAMPTON, VIRGINIA

By

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and

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ABSTRACT

MAAR Associates, Inc. of Williamsburg, Virginia undertook a Phase I Cultural Resources Survey of a four-acre parcel located within the bounds of the NASA Langley Research Center in Hampton, Virginia. The survey was conducted on behalf of NASA at the specific request of the Virginia Division of Historic Resources (VDHR) and the Norfolk District Corps of Engineers, pursuant to a determination that the project would be subject to the requirements of Section 106 of the National Historic Preservation Act of 1966. The Phase I survey was carried out in the months of June and July 1992, and included background documentation, field testing, and data analysis designed to LOCATE and IDENTIFY all the cultural resources contained in an adjacent to the project area.

The Phase I survey resulted in the location of an archeological site in the southeast portion of the project area. The site, which has an historic and a prehistoric component, was subsequently given the designation 44HT43 by the VDHR. The prehistoric component is extremely ephemeral, and appears to represent a transient specialized procurement camp occupied sometime during the Late Archaic or Early Woodland period, ca. 3,000 B.C. to ca. 500 B.C. The activities undertaken by the prehistoric occupants of the site were most likely restricted to the procurement of hunted foodstuffs, as well as some tool maintenance tasks. By contrast, the historic period occupation of Site 44HT43 is dense, fairly concentrated, and evidences an in situ occupation of the area. The archeological materials recovered from the plowzone levels of 17 of the shovel test pits included ceramics, bottle glass, architectural debris, and substantial amounts of oyster shell evidencing domestic activities. The diagnostic ceramics, as well as the bottle glass, tend to indicate a mid to late eighteenth century occupation of the area, no earlier than ca. A.D. 1720 and no later than A.D. 1780. Although located near a nineteenth century plantation known as Cloverdale, the archeological deposits comprising 44HT43 clearly pre-date the nineteenth century plantation and are likely to be associated with the Wythe family, the eighteenth century owners of the property. Most specifically, the occupation is likely to have occurred when the property was owned by George Wythe, a prominent citizen of the state of Virginia and a signer of the Declaration of Independence. Since the Wythe plantation house was located well away from the project area, it is likely that site 44HT43 may represent the remains of a slave quarter owned by the Wythe family or the remains of a farmstead occupied by a tenant farmer working for George Wythe.

Based on the data which indicates that site 44HT43 has a significant amount of research potential and integrity, it has been suggested that the site is potentially significant. It has therefore been recommended that 44HT43 should be subjected to a Phase II Evaluation Survey designed to evaluate the eligibility or non-eligibility of the site for nomination to the National Register of Historic Places.

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BACKGROUND

Introduction

Project Characteristics

During the summer of 1992, MAAR Associates, Inc. (MAI) conducted a Phase I Cultural Resource Survey of a four-acre tract at the NASA Langley Research Center located near Hampton, Virginia **(Figures I-1 and I-2)**. The scope of the survey entailed a background investigation and a field survey of the project area. This survey considered nearby archaeological sites and National Register sites. The survey was conducted in compliance with the National Historic Preservation Act (NHPA, P.L. 89-665) and its implementing regulations.

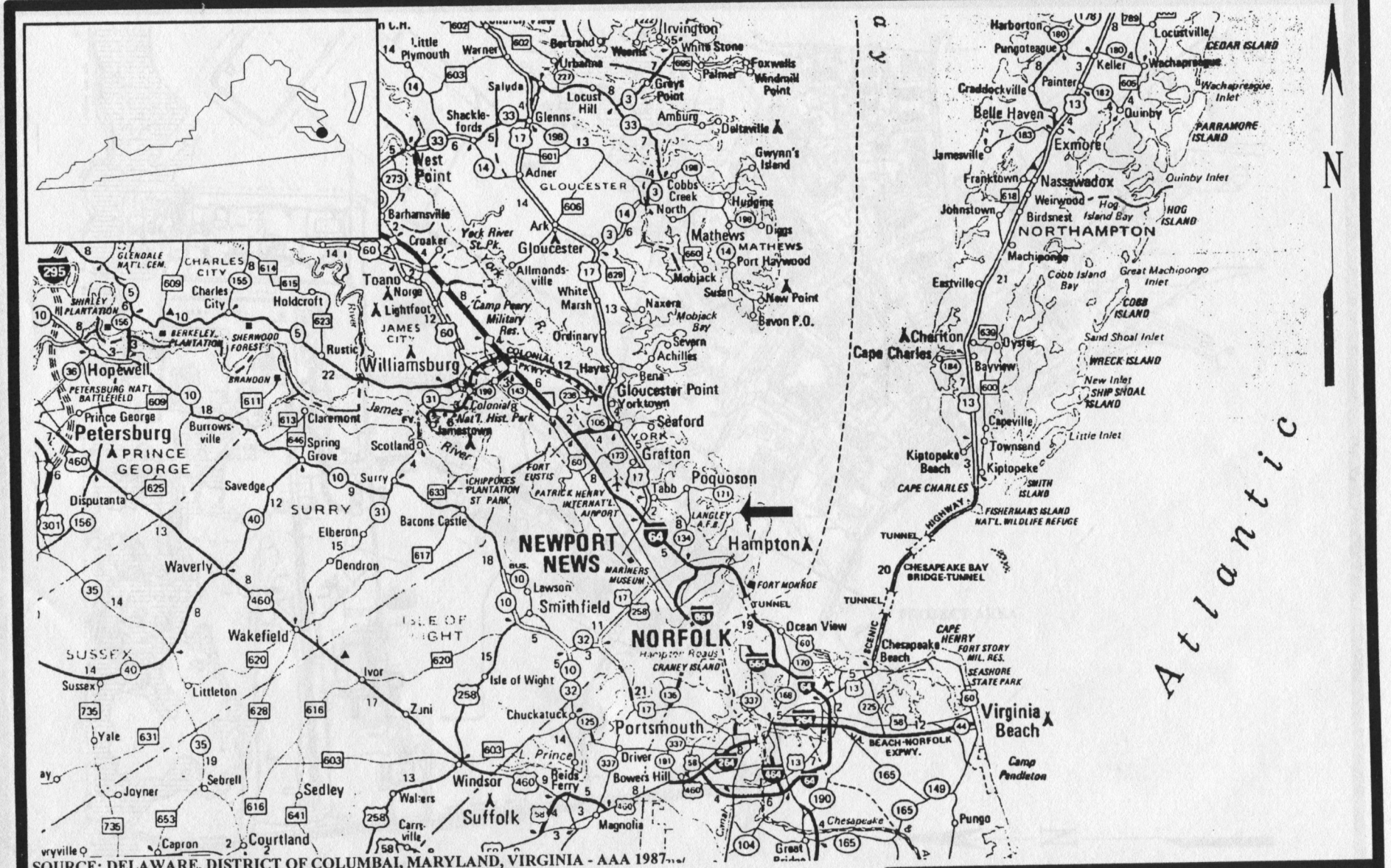
Management Objectives

The Phase I cultural resource survey was conducted in order to comply with federal historic preservation statutes which have been mandated for this and similar projects that are conducted on federal property with the use of federal funds.

Cultural resource management studies are usually divided into several distinct phases, depending upon the level and scope of the study. Phase I surveys are designed to locate and identify potentially significant resources. Phase II studies test and assess the significance of sites that are potentially eligible for the National Register of Historic Places. Phase III studies are conducted to treat or mitigate adverse effects on significant sites.

A Phase I cultural resource survey includes a background study, which involves an archival search to determine the nature and extent of previously recorded or potential sites (from map reviews) within a specific project area. The field survey phase is the actual intensive systematic field survey utilized to discover and inventory the unrecorded sites in the project area. The primary objective of a Phase I investigation is the identification of cultural resources utilizing the most general level of archival and field research. A Phase I study usually provides insufficient data to evaluate the importance, or significance, of a cultural resource. It is significance, however, that is the most important concept for regulatory compliance. Significance is usually established at the more intensive Phase II level of research, which is directed at obtaining sufficient information to address the evaluative criteria of the National Register of Historic Places. The development of recommendations for Phase II research, however, is an important element of Phase I surveys, since "potential significance" can be established at the identification level based upon regional archaeological and architectural characteristics.

This investigation was structured in two distinct parts. An initial cultural resource overview considers the relevant natural and cultural history of the general project area and reviews the existing cultural resource data base. That overview was a result of the background research conducted for the project vicinity. This study allows a means of



SOURCE: DELAWARE, DISTRICT OF COLUMBAI, MARYLAND, VIRGINIA - AAA 1987

0 MILES 25

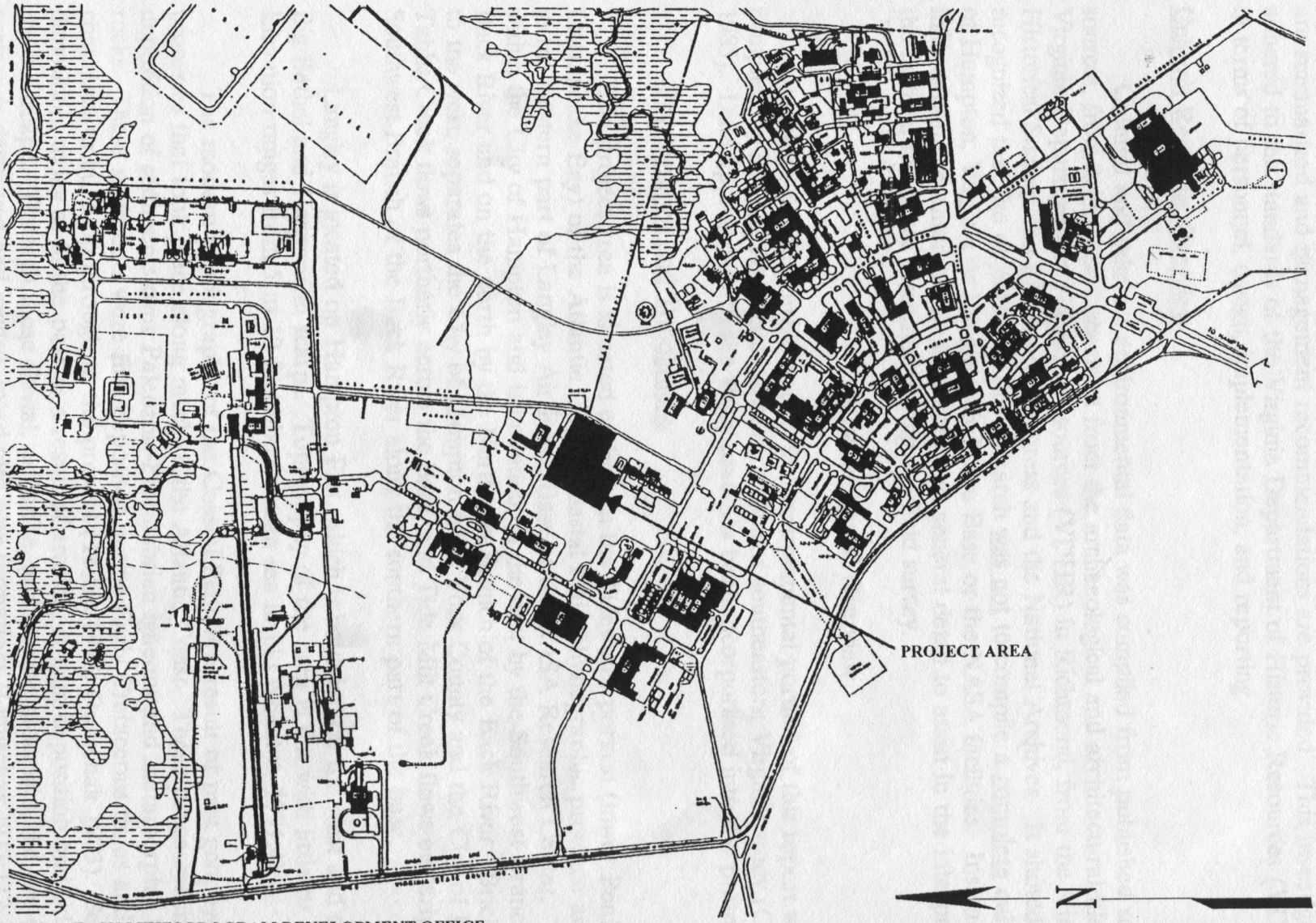
0 KILOMETERS 40

SCALE

PROJECT LOCATION

MAI PROJECT:
NASA LANGLEY RESEARCH CENTER

FIGURE I-1
GENERAL LOCATION MAP



SOURCE: NASA - FACILLITIES PROGRAM DEVELOPMENT OFFICE

0 FEET 3000

0 METERS 900

SCALE

MAI PROJECT:
NASA LANGLEY RESEARCH CENTER

FIGURE I-2
PROJECT AREA MAP

interpreting recovered materials and assessing the sensitivity of the area to known sites. The results of the archaeological field survey will be provided in the data base section of the report. In the final chapter of the present study, sites that may be impacted by the project are summarized and management recommendations are provided. This investigation has adhered to the standards of the Virginia Department of Historic Resources (VDHR 1992), in terms of personnel, design, implementation, and reporting.

Cultural Resource Overview

Cultural and relevant environmental data was compiled from published secondary sources, from information obtained from the archaeological and architectural files of the Virginia Department of Historic Resources (VDHR) in Richmond, from the Virginia Historical Society, the Library of Congress and the National Archives. It should be recognized that the objective of this research was not to compile a complete culture history of Hampton, Virginia or Langley Air Force Base or the NASA facilities. Instead, the information presented below is of sufficient general detail to assist in the interpretation of the cultural resources identified during the field survey.

Environmental Overview

Much of the data presented in the environmental portion of this report was initially compiled by MAAR Associates, Inc. for a similar southeastern Virginia study (Opperman 1985). Data appropriate to the study area has been incorporated into the present report.

Physiography and Topography

The project area is situated entirely in the Tidewater portion (lower Peninsula, Chesapeake Bay) of the Atlantic Upper Coastal Plain physiographic province and is located in the western part of Langley Air Force Base at the NASA Research Center. The base is within the City of Hampton and is bounded on the east by the Southwest Branch of the Back River and on the north by the Northwest Branch of the Back River. Brick Kiln Creek, to the west, separates the City of Hampton from York County and the City of Poquoson. Tabbs Creek flows northerly across the base, and Tide Mill Creek flows easterly into the Southwest Branch of the Back River along the southern part of the base.

Langley is located on Hampton Flat, which is bounded on the west and southwest by Big Bethel and Harperville scarps. Topography of the area is flat with little or no relief. Elevation ranges from 5 to 12 feet above mean sea level (Wheaton 1991:4).

The modern physiography of the Coastal Plain is a result of past geophysical processes that took place along much of the Atlantic Coast. These processes include the deposition of sediments over Paleozoic-Precambrian igneous and metamorphic basement rocks. These sediments were first deposited during Early Cretaceous times and have continued to build up through to the present (Teifke 1973; Onuschak 1973). Sediment deposition, today as in the past, is a result of erosion, stream deposition and tidal action on the landscape. Through these fluvial, estuarine, and marine processes, the pre-existing surface is destroyed and incorporated into new formations (Onuschak 1973:112-132).

Physiographically, the project area portion of the southeastern Virginia Coastal Plain is part of the "embayed section" of the Atlantic Coastal Plain. This section, which extends from Cape Cod southward to the Neuse River in North Carolina, is characterized by regional variation, which is particularly manifested in the submerged Chesapeake Bay system in southeastern Virginia (Thornbury 1965:36-38). The submergence of this river system has:

> . . . broken the coastal plain into a number of peninsular tracts separated by broad estuaries, many of which extend inland to the Fall Line. The Chesapeake Bay region is thus a striking example of a dismembered river system. The original drainage of this area consisted of the Susquehanna River and its tributaries. These tributaries were such rivers as the present James, Rappahannock, Potomac and Patuxent (Thornbury 1965:38).

Edwards and Merrill (1977) also note these drainages in their description of the extent of continental shelf emergence during the last glacial advance.

Another characteristic of the Coastal Plain in southeastern Virginia, and much of the Atlantic Coastal Plain, is the series of terraces which roughly parallel the coast. These terraces progressively increase in height and chronological age until they meet the Fall Line at approximately 300 feet above sea level. They are due to both marine and fluvial actions (Thornbury 1965:33-35; Oaks and Coch 1973).

The stratigraphy of the project area is made up of sediments ranging in age from early Cretaceous to recent Holocene deposits. Most of the area is underlain by the Lynnhaven member of the Tabb formation, which is of Pleistocene origin (Wheaton 1991:4). The Lynnhaven member consists of marine clayey sands, sandy clays and gravel, beach sand, and cobble type gravel.

Soils

There is currently no soil survey for Hampton; however, the General Soils Map for James City and York Counties, and the City of Williamsburg, Virginia, provide soil data that can be interpolated for the Langley Air Force Base project area. The southern portion of York County, which lies adjacent to the Poquoson River and the City of Hampton, is primarily made of soils of the Tomotley-Altavista-Dragston association. These are deep, poorly-drained, moderately well-drained, and somewhat poorly-drained soils that dominantly are loamy and nearly level, located on low flats and terraces (Hodges, Sabo, McCloy and Staples 1985:General Soils Map). The higher areas tend to Altavista fine sandy loam, which is moderately well-drained and located along water courses, while the poorly-drained flats consist of the Tomotley fine sandy loam. Saline water marshes are located in the tidal flats at the mouth of Tabb Creek.

Climate

Data on the climate was recorded for the survey area in Williamsburg, Virginia between 1951 and 1976. The average summer temperature is 76 degrees, with an average

daily maximum temperature of 87 degrees; the highest temperature recorded during the above period was 104 degrees. In winter, the average temperature is 41 degrees and the average daily minimum is 30 degrees; the lowest temperature recorded was 1 degree. Total annual precipitation is 47 inches. About 55 percent, or 26 inches, usually fall between April and September. Most thunderstorms occur in summer and number about 40. Average snowfall is 9 inches (less in the lower peninsula); the deepest recorded at any one time was 19 inches. The sun shines 70 percent of the time in the summer and 60 percent in the winter. Prevailing winds are from the southwest (Hodges, Sabo, McCloy and Staples 1985:1-2).

Floral Resources

Over the last 350 years, the forest appearance has changed very rapidly. Nelson and Zillgitt (1969:9) indicate that the modern forest cover of southeastern Virginia is dominated by loblolly and short leaf pine. These two species account for over 50 percent of the trees throughout most of the area. Other minor forest types occurring in regional enclaves include oak-pine, oak-hickory, and oak-gum-cypress. Kuchler (1964) indicates that these small enclaves were actually the principal components of the climax forest present during the prehistoric and early historic period. That study suggests that most of southeastern Virginia would have been covered with an "Oak-Hickory-Pine Forest" composed of medium tall to tall broadleaf deciduous and needleleaf evergreen trees. When this data is compared to historic descriptions of the forest cover in the Chesapeake region at the time of English colonization, it becomes apparent that the modern forest is quantitatively different in composition than that which existed in prehistoric times.

An early description of the Chesapeake Bay area by Robert Beverly was first published in 1705 (Beverly 1947). Not only did Beverly describe the various forest species that occur in the Chesapeake region, but he also observed the distribution of these trees in areas that seemingly correlate with the topographic divisions already noted. For the lowland areas, Beverly notes that they were:

> . . . well stor'd with Oaks, Poplars, Pines, Cedars, Cypress, and Sweet Gums...They likewise produced great variety of evergreens, unknown to me by name, besides the beauteous Holly, Sweet-Myrtle, Cedar, and the Live Oak (1947:123-4).

This can be contrasted to Beverly's accounts of the ridge and uplands and the stream terraces:

> The Middle of the Necks, or Ridges between the Rivers, is generally poor, being either a light Sand, or a white or red Clay, with a thin Mould: Yet even these Places are stored with Chestnuts, Chinkapins, Acorns of the Shrub-Oak, and a Reedy Grass in Summer...The rich Lands lie next to the Rivers and Branches, and are stored with large Oaks, Walnuts, Hickories, Ash, Beech, Poplar, and many other Sorts of Timber, of surprizing Bigness (1947:124).

Beverly's descriptions seem to correspond to the variation in soil fertility existing between the ridge and upland areas and the stream terraces. In terms of forest composition, these accounts clearly indicate that pines were a secondary component in the largely deciduous forest that existed in early historic, and presumably prehistoric times.

Faunal Resources

This discussion focuses on the importance of animals as a resource to the prehistoric inhabitants of the area. With some exceptions, the mammalian population of the project area has not changed appreciably since initial European colonization. These exceptions include the hunting, reduction and/or relocation of such species as the black bear, the timber wolf, the cougar, the elk, and the bison. The bison, which appears to have been present on the Coastal Plain, had the potential natural range that includes southeastern Virginia (Hall and Kelson 1959; Olsen 1964). Painter (1978) reported the presence of bison teeth at the Currituck Site, in a context that was carbon-dated to 2610 B.P. Area mammal species which were utilized in the past by prehistoric peoples include the opossum, raccoon, long-tailed weasel, mink, gray fox, woodchuck, gray squirrel, fox squirrel, southern flying squirrel, beaver, eastern cottontail rabbit, marsh rabbit, and white-tailed deer. At one time, the beaver and the river otter were nearly extinct but have been recently reintroduced into the region. There is visible evidence of the presence of the former in the project area. Other mammals of questionable range that might have once occurred in the project area are red squirrel, red fox, and striped skunk (Handley and Handley 1950). Also included in the extant mammalian assemblage of this area is the bobcat. With the exception of the cougar, the red fox, and the red squirrel, all of the above mammals are noted by Larson (1980:165-83) as having been recovered from late prehistoric archeological sites along the southeastern Coastal Plain.

A large number of bird species were probably significant to the prehistoric peoples of the region. The most diverse group of birds that occur in this area are the migratory waterfowl. These species are principally winter visitors to the Chesapeake Bay and its estuaries, and migrate north in the early spring as temperatures begin to rise. According to Johnsgard (1975), the larger of these species include the whistling swan, the snow goose, and Canada goose. Also, wintering in the area are ten species of ducks, three species of coots, and three species of merganser, among many others. Other waterfowl of possible prehistoric significance that occur in the Chesapeake area are noted by Larson (1980:19) and include the common loon, double-breasted cormorant, great blue heron, and the greater egret. Larson (1980:19) also notes that the wild turkey and the turkey vulture should be included as significant elements of late prehistoric subsistence economies in the southeast, particularly for interior areas away from the Chesapeake Bay.

The marine resources available in the Chesapeake Bay, its constituent estuaries, and southeastern Virginia include freshwater, saltwater, and anadromous fish species. Among the freshwater species, fish of probable prehistoric significance include long-nose gar, bowfin, gizzard shad, eastern creek chubsucker, white catfish, northern brown bullhead, southeastern yellow bullhead, bulldog pickerel, chain pickerel, American eel, warmouth, pumpkinseed, common bluegill, and yellowbelly sunfish (Raney 1950). Two freshwater species popular with

modern sport fishermen, the largemouth bass and the black crappie, also occur in the Chesapeake region but may have been recently introduced from other areas.

Of potential economic importance for the prehistoric peoples of the Chesapeake Bay area are those saltwater fishes which annually migrate in large numbers to freshwater areas in order to spawn. According to Raney (1950:190), these anadromous species include Atlantic sturgeon, glut herring, alewife, American shad, and striped bass. Numerous other saltwater species prefer the more saline conditions of the Chesapeake Bay and its tributaries and are likely to have been of principal importance to the former occupants of the project area.

Of the reptiles, turtles are the most important exploitable resource. The majority of these species are aquatic turtles and, like the fishes and the mollusks, can be grouped according to their occurrence in fresh or saline environments. The ranges of the following species, along with other reptiles and amphibians not listed below, are provided by Martof et al. (1980), and a discussion of their role in prehistoric subsistence economies is provided by Larson (1980:127-139). Of the fresh water turtles, important species occurring in the project area include snapping turtle, eastern mud turtle, Florida cooter, river cooter, painted turtle, red-belly turtle, yellow-belly slider, and the spotted turtle. In the saline portions of the Chesapeake Bay drainage system, the diamondback terrapin is the most abundant turtle potentially exploitable as a food resource. Large sea turtles also occur in the saltwater portions of the Chesapeake Bay system, although their importance to prehistoric peoples is considered to have been minimal (Larson 1980:127-133). Finally, mention must be made of the single land turtle that occurs throughout Eastern North America - the box turtle. Larson (1980:136-137) notes its recovery from a number of late prehistoric sites in the southeast.

Mollusks also provided an important and abundant food source for both the prehistoric and historic peoples of the project area. As in the case of other aquatic resources considered above, this faunal class can be divided into those species preferring either fresh or saline environments. For this area, however, only mollusks occupying saline environments were likely to have been present and of any subsistence importance. Such species include the ribbed mussel, oyster, soft-shelled clam, hard-shelled clam, and the razor clam (Roberts 1979:71-84).

Paleoenvironment

Researchers disagree as to when man first arrived in North America, but it is certain that he was at least witness to the presence of ice sheets over much of this continent. The project area, however, was not directly subjected to the glacial advance and remained ice free throughout the late Pleistocene. Nevertheless, the emergence of the continental shelf and the general decrease in temperature made this area much different in appearance than it is today. Based on pollen data from northeastern North Carolina, Whitehead (1973:628-629) postulates a 100 km southward displacement of boreal forest species. For southeastern Virginia, this data indicates the presence of "a boreal forest dominated by spruce, jack and/or red pine, and fir" (Whitehead 1973:626). This reconstruction is supported by the work of Sirkin (1977) and Edwards and Merrill (1977), all of whom see a replacement of these boreal species by such deciduous hardwoods as oak and hickory occurring between

12,000 and 7,000 B.P. This evidence, although macroscopic in nature, indicates a qualitatively different forest cover for the project area at the time when man may have first arrived in southeastern Virginia.

A summary of the environmental history of the area is provided in **Table I-1.** Approximately two-thirds of the time man has been present in the area he was under the influence of the paleoenvironment, since it has only been within the last four millennia that "modern" climatic and biotic conditions have been present.

Culture History Overview

This document is an overview of the prehistoric and historic record of the southeastern Virginia area, with emphasis on the area of the lower peninsula, located north of the James River, that includes lower York County, Hampton, Newport News, and Langley Air Force Base, and the estuaries of the Back River as they relate to the project area. The overview has been structured into an historic context of the Upper Coastal Plain Cultural Region and is organized into sequences by temporal periods which focus on specific aspects of the area's local cultural development (VDHR 1992). Parts of the discussion relate to prehistoric cultural development south of the James River as well, to place development in a regional context.

Table I-2 summarizes the most general features of the site area culture history. Considering the 12,000 plus years of man's occupation of southeastern Virginia and the significant environmental changes that have taken place through this time, the details of regional culture history are only generally understood. Existing data does indicate that over the course of this period, the study area was being utilized by man, who left behind tangible evidence of his past presence. The sequence in **Table I-2** generally corresponds (give or take a thousand years in the different early periods) to the prehistoric cultural sequence for the North Carolina Coastal Plain (Phelps 1983:17).

Prehistoric Period

This overview of the prehistoric period in southeastern Virginia was constructed from archaeological research conducted in southeastern Virginia, in the areas south and north of the James River in southeastern Virginia, with special emphasis on the cultural processes that may have influenced the use of particular environmental zones and resource procurement strategies. Woodland period ceramic sequences have used the James River as a "boundary" for ceramic typing purposes. It is recognized that a group using both shores of the James River would have the same ceramic classified as different types. For that reason, possible relevant ceramic types are discussed, but the context follows the recommended typology division. The organization of this overview is according to the defined culture history periods sequence, i.e. the three broad general periods: Paleo-Indian period (10,000 B.C. to 8,000 B.C.), the Archaic period (8,000 B.C. to 1,000 B.C.), and the Woodland period (1,000 B.C. to A.D. 1600). These prehistoric temporal periods have further been subdivided into Paleo-Indian, Early, Middle and Late Archaic, and Early, Middle and Late Woodland periods.

TABLE I-1: SUMMARY OF CULTURALLY RELEVANT ENVIRONMENTAL HISTORY

DATE	INFERRED CLIMATE	CLIMATIC EPISODE
750 BC-Present	Modern Oak-Pine-Hickory climax forest dominant, development of Cypress-Gum (Modern) forests in lowland areas.	Sub-Atlantic
3,000-750 BC	Drier conditions, Oak-Hickory climax forest dominant, beginning of Loblolly Pine expansion due to drier conditions.	Sub-Boreal
6,500-3,000 BC	Increase in precipitation, Oak-Hickory climax forest dominant, sedge-grass maximum and increase of aquatic species.	Atlantic
8,000-6,500 BC	Late glacial conditions, Pine-Spruce establishment of Beech-Hemlock-Birch-Oak climax forest.	Pre-boreal, Boreal
13,000-8,000 BC	Late glacial conditions, Pine-Spruce climax forest dominant, low measures of non-arboreal pollen indicate reduction of grasslands.	Late Glacial
Pre-13,000 BC	Full glacial conditions (no ice-pack in southeastern Virginia), Spruce-Pine-Fir climax forest dominant, high measures of non-arboreal pollen indicate presence of open areas.	Full Glacial

Note:

Inferred Climate from Carbone (1976)
Climatic Episode from Wendland and Bryson (1974)

TABLE I-2 SUMMARY OF LOCAL CULTURAL HISTORY - HISTORIC CONTEXT UPPER COASTAL PLAIN
LOWER PENINSULA

CULTURAL PERIOD (Traditional Model)

TRADITION: PERIOD	DATE	GENERAL SETTLEMENT PATTERNS	GENERAL SUBSISTENCE SYSTEMS	DIAGNOSTIC CULTURAL REMAINS
PREHISTORIC NATIVE AMERICAN SETTLMENT				
Paleo-Indian	10,000 BC to 8,000 BC	Small campsites located on sandy ridges/beaches, near streams/rivers/swamps Range of 6 to 10 Clovis fluted points in York County, fewer than 6 found in Hampton, Newport News; found near rivers, and higher areas.	Transient hunting and gathering, hunting of modern and glacial(?) fauna to "diffuse" hunting and gathering and adaptation to post-glacial conditions.	Fluted projectile points (Clovis style) manufactured primarily from chert, chalcedony, and vein quartz (infrequent). Hardaway and Hardaway/ Dalton projectile points and blades (8,250 B.C.) (very rare in area).
Early Archaic	8000 BC to 6500 BC	Small camps distributed within a variety of environmental settings, with emphasis on proximity to the drainages to York and James Rivers; headwaters.	"Diffuse" hunting and gathering by small groups, subsistence practices probably seasonally directed.	Palmer, Kirk (corner-notched, 7,540 - 6,200 B.C.: stemmed/side notched, 7,190 - 6,635 B.C.), Big Sandy (7,000 B.C.); Kanawha, LeCroy, St. Albans bifurcate-base projectile points, 6,870 - 6,010 B.C.)
Middle Archaic	6500 BC to 3000 BC	Small campsites distributed within a variety of environmental settings and special purpose locales, an emphasis on upland stream settings, and a proliferation of Halifax period sites.	"Diffuse" hunting and gathering, subsistence practices seasonally directed (hickory nuts - fall) with a probable population increase during Halifax period occupations; shellfish.	Stanley Stemmed (5,860 - 5,440 B.C.), Morrow Mountain (5,305 - 4,500 B.C.), Guilford (4,600 - 4,000 B.C.) and Halifax (4,000 -3,500 B.C.) stemmed and lanceolate points; chipped axes.

TABLE I-2 (continued)

CULTURAL PERIOD (Traditional Model)

TRADITION: PERIOD	DATE	GENERAL SETTLEMENT PATTERNS	GENERAL SUBSISTENCE SYSTEMS	DIAGNOSTIC CULTURAL REMAINS
PREHISTORIC NATIVE AMERICAN SETTLEMENT - continued				
Late Archaic	3000 BC to 1200 BC	Base camps on river floodplain terraces and along upland creeks, special purpose camps in upland interior settings.	"Focal" hunting and gathering, subsistence practices seasonally directed; increasing use of plant food after 2,100 B.C., shellfish.	Savannah River stemmed points (2,750-1,630 B.C.) Brewerton side-notched (2,000 B.C.), Bare Island (2,155 - 1,850 B.C.); Perkiomen points (1,700-900 B.C.), cremations, steatite bowls, ground stone tools (axes, celts, mortars).
Early Woodland	1200 BC to AD 300	Base camps on floodplains and terraces adjacent to the James/York Rivers special purpose camps in interior resource, population increases.	"Focal" hunting and gathering, introduction of cultigens(?), subsistence practices seasonally directed, shellfish.	Marcey Creek steatite tempered flat-bottomed vessels (1,300-800 B.C.) Accokeek Creek (sand/particle tempered) pottery (800 B.C. - 300 B.C.); Popes Creek Ware (sand tempered) (500 B.C. to A.D. 200).
Middle Woodland	AD 300 to AD 1000	Base camps on the floodplains and terraces of the James/York Rivers, special purpose camps in interior resource areas. Band to tribal society, population increase and sedentary groups.	"Focal" hunting and gathering, limited horticultural activity, subsistence practices seasonally directed, corn in diet by 800 - 1000 A.D.	Mockley shell-tempered ceramics (200-900 A.D.) Piscataway lanceolate, large triangles, stemmed and notched points.

TABLE I-2 (continued)

CULTURAL PERIOD (Traditional Model)

TRADITION: PERIOD	DATE	GENERAL SETTLEMENT PATTERNS	GENERAL SUBSISTENCE SYSTEMS	DIAGNOSTIC CULTURAL REMAINS
PREHISTORIC NATIVE AMERICAN SETTLEMENT - continued				
Late Woodland	AD 1000 to 1600	Permanent and semi-permanent agricultural villages/hamlets on terraces and uplands adjacent to rivers and creeks, uplands procurement camps, Chiefdoms.	Agriculture supplemented by hunting, gathering and trade, development of redistributive economy.	Townsend shell-tempered ceramics (945 - 1,590 A.D.), triangles, palisaded villages, long houses, bone awls, beamers, beads, fish hooks, antler tools, stone celts, clay pipes, ossuary burials.
SETTLEMENT TO SOCIETY (1607-1750)				
A. Contact Period (Powhatan)	AD 1600 to 1715	Continuity of Late Woodland patterns. Great palisaded towns, Chiefdoms, Kecoughtan village.	Continuity of Late Woodland patterns.	European trade goods, Townsend Fabric Impressed ceramics, Gaston Ware.
B. Colonial: Rise of the Plantation System and the Peculiar Institution of Slavery				
Colonial Frontier	1607 to 1630	Settlement along the James/York; Indian attacks on settlers along the James; trading posts; wooden fortification (Fort Algernon), small frame houses; settlement at Keoughtan by 1619; Elizabeth City court,1624.	Tobacco-dominated agricultural economy, trade with native populations for food and marketable items, disruption of native subsistence economy.	Fortified settlements and farmsteads, late 16th and and early 17th century European ceramics, early tobacco pipe styles.

TABLE I-2 (continued)

CULTURAL PERIOD (Traditonal Model)

TRADTION: PERIOD	DATE	GENERAL SETTLEMENT PATTERNS	GENERAL SUBSISTENCE SYSTEMS	DIAGNOSTIC CULTURAL REMAINS
SETTLEMENT TO SOCIETY - continued				
Colonial Settlement	1630 to 1750	Settlement along the James River and major streams, planned town centers (1680), Hampton and Yorktown; plantations; challenge to Royal authority (Bacon's Rebellion); slave labor institutionalized; Elizabeth City develops; Syms first free school (1635);large land grants; Hampton trade center.	Tobacco-dominated agricultural economy, minor rural industry such as brickmaking, grist milling, black-smithing, ceramic manufacturing, small shipyards.	European coarse and refined ceramics, locally made coarse ceramics, "impermanent" (earthfast) architecture, informal non-symmetrical styles on earlier houses, in 1720s, beginning of large brick Georgian mansion construction.
COLONY TO NATION (1750-1789)				
Late Colonial Plantation Society	1750 to 1789	Peninsula settled by large plantations with wharves; water travel; independence declared; withdrawal of Royal authority; Revolutionary War; siege and British surrender at Yorktown, skirmishes at Hampton, George Wythe plantation near Hampton; roads follow old paths.	Tobacco plantations, beginning of diversi-fication of economy (agriculture), light rural industry such as brickmaking and grist milling; ordinaries; fishing; shipping; shipbuilding.	European coarse and refined ceramics,locally made coarse ceramics,Late Georgian and Federal style and vernacular architectural interpre-tation, more "permanent" construction techniques, symmetricality in design; Revolutionary war earth-works at Yorktown; sunken ships.

TABLE I-2 (continued)

CULTURAL PERIOD (Traditonal Model)

TRADTION: PERIOD	DATE	GENERAL SETTLEMENT PATTERNS	GENERAL SUBSISTENCE SYSTEMS	DIAGNOSTIC CULTURAL REMAINS
EARLY NATIONAL PERIOD (1789-1830)				
	1789 to 1830	Growth of port town of Hampton, plantations are broken up for smaller farms, small courthouse villages, shipbuilding facilities expand, river transportation systems important; 1812 British attach; Federal forts built (Fort Monroe 1819), (Fort Calhoun [Wool] 1830).	Plantation/small farm types of agriculture, small rural industries such as saw and grist milling, carpentry, blacksmithing, and bricklayers; fishing; shipping; shipbuilding.	European and American ceramics such as pearlware, ironstone, handblown and molded bottles, wrought and cut nails, Federal and Greek Revival architectural styles, vernacular architectural interpretation.
ANTEBELLUM PERIOD	(1830-1860)	Growth of Hampton; rural settlement pattern of dispersed farms; development of rail transportation systems, shipbuilding.	Agriculture, light rural industry such as brickmaking, saw and grist milling, fishing, and shipping; shipbuilding.	Whiteware and pearlware, ironstone, handblown and and molded bottles, cut nails, Greek Revival, Italianate, Gothic Revival architectural styles.
CIVIL WAR (1861-1865)		Disruption of earlier domestic patterns, military engagements and large troop movements up the James River; Battle of Ironclads; burning of Hampton; fortifications by both armies; Battles at Big Bethel; Peninsula Campaign.	Disruption of rural agricultural economy, and lifestyles, destruction of woodlands, destruction and loss of property; Federal use of the James and York Rivers; Federal occupation.	Mid 19th century Federal and Confederate items, fortifications, sunken vessels.

TABLE I-2 (continued)

CULTURAL PERIOD (Traditonal Model)

TRADTION: PERIOD	DATE	GENERAL SETTLEMENT PATTERNS	GENERAL SUBSISTENCE SYSTEMS	DIAGNOSTIC CULTURAL REMAINS
RECONSTRUCTION AND GROWTH (1865-1917)				
Post Bellum	1865 to 1917	Large and small farms, depletion of soils, continuation of agricultural economy, rebuilding of Hampton.	Agriculture, early reconstruction of local domestic rural economy; ship-building; fishing.	Late 19th and early 20th century domestic debris, machine-made bricks, mass-manufactured items; Italianate, I-houses, Victorian and Queen Anne architecture, bungalows, four-square farmhouses.
WORLD WAR I TO WORLD WAR II (1917-1945)				
Urban Growth	1917 to 1945	Continuation of post-bellum patterns, farming communities; fishing and waterman activities; employment in shipyards (Newport News), employment in military facilties; establishment of military airfield at Langley.	Agriculture and fishing, major employment with Newport News ship-yard and military facilties; farm products include dairy, livestock, and field crops.	Mail order houses, indistinct architectural styles, modern structural and domestic debris, paved highways, steel bridges.
THE NEW DOMINION (1945 to Present)				
Urbanization	1945 to Present	Fewer rural farms, new military/space exploration developments at Langley; NASA expansion; growth of cities of Hampton and Newport News;new facilites (bridges/tunnels) built.	Employment in retail, construction, ship-building, agriculture, meatpacking, paper industry, Federal government.	Modern structural and domestic debris, isolated litter.

Some sites contain materials which are diagnostic of one or more of the periods discussed below, but other sites contain only lithic debitage or other materials diagnostic of a prehistoric occupation, such as a shell midden, which cannot be affiliated with a particular period. The former sites represent small campsites or isolated loss sites, while the latter represent resource procurement (shellfish) sites. Generally, sites without pottery might be assumed to be Archaic (preceramic) by affiliation, but this is not necessarily the case. The non-diagnostic sites generally are not included within specific periods, yet they usually make up the majority of prehistoric sites recorded. The lithic debitage type of site is generally not predictable within any particular environmental zone, but most habitable areas, such has hilltops, ridges, and gentle slopes, beaches, river and stream floodplains and their terraces, can generally be expected to evidence some type of prehistoric occupation.

The upper coastal plain of Virginia, the physiographic region in which the prehistoric cultural elements of the study area are located, shows a long-time, in-place development of subsistence systems primarily oriented toward the procurement of swamp/riverine/aquatic food resources. A rather dense population of fisherman/farmers inhabited the area in historic and late prehistoric times (Hranicky 1973:81). This population consisted of the numerous tribes of Algonquian linguistic stock making up the Powhatan Confederation. These tribes had probably inhabited the area since the Archaic period (Hranicky 1973:81).

Paleo-Indian Period

The Paleo-Indian period, commencing with the first evidence of man in the New World, is generally accepted as beginning prior to 10,000 B.C., and possibly as early as 12,000 to 15,000 B.C. Paleo-Indian diagnostic tools include the Clovis-style fluted projectile points which were used in the hunting of modern fauna and Pleistocene megafauna. Paleontological evidence from Saltville, Virginia, indicates that the bison, horse, camel, caribou, moose, ground sloth, mastodon, mammoth and two types of musk oxen were present in Virginia 15,000 years ago as well as later (Hranicky 1973:85; Gardner 1972:10). Paleo-Indian sites in southeastern Virginia were probably transient hunting and gathering sites. A transitional Paleo to Archaic period is noted in some parts of the eastern seaboard between 10,000 B.C. and 8,000 B.C.; the evidence, which consists of Hardaway and Hardaway/Dalton projectile points, occurs in the southern part of Southampton County along the Meherrin River. Campsites of this period would be small and very similar in composition and function to Paleo-Indian transient hunting and gathering sites. Sites which were the size and duration of basecamps also existed, usually in locations where lithic resources could be procured. These sites were sometimes near major streams or in large open river valleys, but in many instances occupied higher elevations which overlooked the routes of game herd animals.

An important characteristic of the Paleo-Indian tradition is the decided preference for such superior lithic materials as chert, chalcedony, jasper and quartz crystal over the more inferior, though often locally available, lithic materials such as quartzite, rhyolite and argillite. Such a preference is manifested at the Williamson Paleo-Indian workshop site in Dinwiddie County, Virginia. This particular site is important since it reflects the overwhelming utilization of a chert resource which is often transported many miles from its source to smaller campsites. The fact that many Paleo-Indian projectile points found throughout

eastern Virginia are manufactured from Williamson chert not only reflects cultural mobility, but also focuses on the exploitation of a particular type of lithic material (McCary 1951, 1975; McCary and Bittner 1978). The unusual occurrence of a chert nodule outcrop associated with possible Paleo-Indian artifacts has also been reported from western Sussex County at the Mitchell Plantation Site (McCary and Bittner 1979). Fluted points have been recovered infrequently in the lower peninsula (one found fairly recently at an excavation in Hampton), but Paleo-Indian fluted points have been recorded regularly in areas south of the James River, in the western parts of Isle of Wight County and in Suffolk along the western edge of the Dismal Swamp.

Archaic Period

The end of the Pleistocene was marked by warmer temperatures which resulted in glacial melt and a subsequent rise in sea levels. There was also a shift in surface vegetation with higher altitudes retaining more of the earlier northern type vegetational communities and the lower altitudes witnessing the movement into the Virginia area of species from previous southern locations. Many of the cold-adapted animals probably followed the retreating glacial climate northward and, in the case of the larger animals, into extinction.

During this transition, there was a change in the style of projectile points and the introduction of new tools. The technique of fluting was abandoned and the resulting change in projectile point form has been used to technologically mark the end of the Paleo-Indian Period and the beginning of the Archaic.

During the Archaic, the tool inventory continued to become more diverse, indicating regional localization of populations, each involved in exploiting a well-defined region or catchment area. The exploitative and technological specializations also reflect the environmental changes brought on by the onset of modern conditions in the region. According to Custer (1980:7):

> . . .the variety of site types and activities seems to represent an adaptation to increased variety of environmental settings as well as the variety of resources due to increased seasonality.

Such an exploitative pattern has been called "diffuse" (Cleland 1966) and is principally represented by Early and Middle Archaic cultures prior to the beginning of the third millennium, B.C. (Mouer et al. 1981:34). By the late Archaic period (3,000-1,000 B.C.), this diffuse exploitative pattern had become "focal" (Cleland 1966) with the appearance of semi-sedentary basecamp sites along the major streams and rivers of the Piedmont and Coastal Plain (Phelps 1975; Mouer et al. 1981; Catlin et al. 1982). It is apparent that a general population increase occurred throughout the Archaic and culminated during Late Archaic times (Turner 1976:248-250).

Early Archaic Period

The Early Archaic period extends from 8,000 B.C. to 6,500 B.C. **(Table I-2)**. In matters of subsistence, this period is similar to the Paleo-Indian period. In other respects,

especially in the projectile point technology and perhaps other aspects, such as lifestyle and the abandonment of the large basecamps/special lithic procurement sites (such as Williamson), there is a difference. The major changes are those represented by a shift in the settlement pattern toward a more stable and restricted site distribution; the appearance of notched and stemmed, serrated points; and the utilization of local lithic resources. The number of sites (and people) appear to increase over time. Sites show an emphasis on proximity to drainages of the larger streams and utilization of the upper environs of the interior streams.

As noted in **Table I-2**, the Early Archaic period is characterized by small camps distributed within a variety of environmental settings and special purpose locales. The subsistence system was composed of "diffuse" hunting and gathering by small groups, with some seasonal direction. In southeastern Virginia, the diagnostic tools associated with this period include the spearthrower and Palmer and Kirk (corner notched and stemmed) projectile points (Coe 1964). At least one site associated with a small, ground base, serrated Palmer-like projectile point (often made of quartzite) has been identified in the area of Angelico Creek, in Southampton County, Virginia (Painter 1964:62-64; 1965:3-5). Palmer and Kirk projectile points have been recovered in significant numbers at sites along the Meherrin River in Southampton County and along the western edge of the Dismal Swamp in the City of Suffolk. Specimens have been recovered at Mulberry Island, on the James River, as well.

The introduction of bifurcated base points - Kanawha, St. Albans and Lecroy - occurs near the end of the Early Archaic Period. Evidence suggests groups were highly mobile hunter-gatherers who were foraging and taking solitary game animals of modern species. In the Southeast part of the country, the Oak-Hickory forests, with associated deer "mast" cycles and turkey appear. This biota eventually is present in the Northeast by 6,000 B.C. In Northern Virginia, the mixed conifer-deciduous forest was expanding into the grassy parklands (Carbone 1976:187). The temperatures of this period were gradually warming and seasons similar to the present were probably occurring by 7000 B.C. New tools, such as axes, and increased basecamp activity areas, appear as the Oak-History forest becomes well-established (Gardner 1980:6). Hunting near shore lines and around swamplands may be related to the procurement of waterfowl.

Middle Archaic Period

The Middle Archaic period began about 6500 B.C. and continued until 3000 B.C. Settlement patterns, based on the distribution of diagnostic artifacts, indicate that small campsites are distributed within a variety of environmental settings and special-purpose locales. There is a decided emphasis on upland stream settings. During the Halifax phase, there is a proliferation of sites on all parts of the landscape. Subsistence practices during the Middle Archaic Period were similar to the Early Archaic Period, but became diversified over time.

Diagnostic tools include Lecroy, Stanley, Morrow Mountain, Guilford, Halifax and various bifurcated/notched base, contracting stemmed and side-notched projectile point variants. Atlatl weights, grinding and milling stones, digging equipment, adzes, chipped and

ground stone axes, drills and other wood working tools were utilized during this period. Projectile point types begin to be "regionalized" during this period, with differences in "type" showing up between regions. Sometime after 6,000 B.C. fishing became a major subsistence activity, with sites at the fall-line located above river rapids and falls (Gardner 1978). Such activity probably commenced earlier in the lower Chesapeake Bay and its estuaries. Stone netsinkers and bone fishhooks appear in artifact assemblages. Morrow Mountain II projectile points, small-stemmed, narrow-stemmed, rounded and almost as thick as they are wide, are in use by 4,500 B.C. In New York, the Lamoka projectile point is in use by 3,500 B.C. Shellfish collecting is not common in the Southeast until about 4,000 B.C.

Environmental and cultural adaptations result in scheduling of spacial organization on the available landscape. The presence of localized, regional patterns indicate that constraints which were initially environmental become more cultural with the presence of greater numbers of persons on the landscape. Subsistence options - hunting, fishing, gathering of nuts and shellfish - is providing more diversity and flexibility. In Isle of Wight County, at site 44IW88, evidence was recovered of the roasting of nuts in firepits (during the mast cycle) early in the period. Radiocarbon dates from a nut roasting pit at this site shows that such activities were taking place as early as 6,414 B.C.(Traver 1991:100; Beta Analytic Report: Beta-36811, April 29, 1990). Groundstone bolas weights utilized for capturing waterfowl appear in areas near the Dismal Swamp and are probably a part of the technological changes that take place during this period. In Northern Virginia, sites along the Virginia tributaries to the Potomac River are fewer in number and of less consequence than the sites in areas surrounding Mattawoman and Zekiah Swamps in Maryland (Barse 1982). Barse (1982) suggests that the latter areas may have been significant waterfowl feeding grounds along the Atlantic Flyway. Sites along the Dismal Swamp also show a very high utilization during this period and may be of more consequence than contemporary sites along the James and York Rivers.

Late Archaic Period

By the Late Archaic period, 3,000 B.C. to 1,000 B.C., the diffuse exploitative pattern has become more oriented towards a specific environment, with the appearance of semi-sedentary basecamps situated along the major streams of the Coastal Plain (Catlin et al. 1981; Hranicky 1973:89). During this period, there is an expanded inventory of diagnostic tool forms and types. Locally, basecamps are found along major estuaries and tidal creeks, with base, seasonal and resource procurement camps located along the interior ridge areas, particularly sandy fields on the edges of swamps. "Focal" hunting and gathering subsistence practices were seasonally-directed.

During this period, increasing social and demographic constraints occur as populations grow, partly because human reproduction is greater among less mobile groups. Diagnostic projectile points are fairly regionalized. Stemmed points are frequently found in places of riverine/coastal exploitation. After 2,000 B.C. the development of exchange networks is occurring. Cache blades show up as trade goods in burials. Steatite bowls are produced during this period, but are eventually replaced by pottery. The Savannah River Broad blade becomes a common tool type in the Upper Coastal Plain. Ground stone tools continue to be produced and include mortars, pestles, bolas weights, bannerstones (atlatl weights), axes

and celts. These are often dredged up in aquatic environments. After 2,100 B.C., there is increasing use of plant foods. Skeletal material from various parts of the eastern United States shows that while diets are diverse, Harris Lines on bones indicate that there are periods of arrested growth. Teeth show increased attrition, indicating that much chewing of gritty material is occurring, while broken bones and bashes to the head suggest that a great deal of trauma and stress is occurring in some parts of the region. Warmer temperatures of the Altithermal occur during this period. Gathering of shellfish in streams increase, and stream flow and siltation becomes less. Rainfall does increase after 2,500 B.C. By 1,500 B.C. to 1,000 B.C., a steatite-tempered pottery is being produced at Marcey Creek in the Chesapeake Bay area, which signals the beginning of the Early Woodland period.

By 1,700 B.C. to about 900 B.C., the makers of the Perkiomen Broad Spearpoint were present in northwestern Virginia (MacCord 1970:181-197), while south of the James River, the makers of the Perkiomen Broad Spears were characterized as the Dismal Swamp culture, which utilized soapstone vessels and soapstone-tempered ceramics (Painter 1987:20-34). The Perkiomen points reported by MacCord (1970:190) were found shattered and burned in pits containing calcined bones. From sites on the western edge of the Dismal Swamp, Painter reported similar contexts - with broken and fire-shattered Perkiomen points recovered with soapstone vessels, calcined bones from cremated burials, polled celts and adzes utilized for woodworking (or grubbing) (Painter 1987:27). Kraft (1970) reported Perkiomen Broad Spears, polled celts, and charred hickory nuts from the Miller Field Site in Warren County, New Jersey. Perkiomen Broad Spears at that site were dated to 1,720 B.C., + or - 120 years. Kraft (1970) considered the Perkiomen culture to be terminal late Archaic, Transitional to the Early Woodland period.

Woodland Period

Just as a period of transition occurs at the end of the Pleistocene between traditions based on the utilization of fluted points and those of more diversified projectile point styles and specialized tools, so a similar technological transition separates the Archaic period from the Woodland period. For the purposes of discussion, it is convenient to consider the Woodland period as beginning with the introduction of ceramics into this area. The earlier Woodland manifestations are recognized by the presence, on most if not all sites, of an incipient pottery industry. The Early Woodland pottery-using populations, however, apparently led a life much like that of the Late Archaic peoples who preceded them.

Middle Woodland lifeways generally appear to be a continuation of traditions that became established during Late Archaic and Early Woodland times. While it is possible that shifts in subsistence occur (from a diversified economy depending on both hunted and plant foods to one with a greater dependence upon plant cultivation), there is little, if any change in the settlement pattern between the two sub-traditions.

During this period, it is believed that the cultivation of plants was being experimented with in many parts of the eastern United States and that a more sedentary lifestyle was evolving. Also indicative of the Early/Middle Woodland period of the Middle Atlantic region is an increased emphasis on and complexity in the ceremonial aspects of life, especially those concerned with the burial of the dead (Gluckman 1973).

Later Woodland traditions in the Eastern United States, and the Mississippian traditions in parts of the Southeast, vary considerably in economic practices from those long recognized in the Woodland pattern. This may be due to the introduction and full acceptance of agriculture and the existence of a sedentary village lifestyle. At any rate, Late Woodland is quite easily recognized by the lithic and ceramic tool styles.

Early Woodland Period

Dates for the Early Woodland period have extended from about 1,000 B.C. to 300 A.D. to include both the steatite and sand tempered ceramic wares. Aside from the possible introduction of cultigens, the settlement patterns and subsistence systems are similar to those observed for the Late Archaic. The introduction of pottery containing steatite and grit tempering marks the beginning of this period. Early diagnostic artifacts include flat-bottomed vessels and a variety of stemmed and side-notched projectile points.

Technology

As in other portions of the Southeast and Middle Atlantic regions, the earliest ceramic forms were based on the steatite vessels of the Late Archaic Period. The relationship between the steatite vessels and the earliest ceramic forms is manifested both in style and technique of manufacture. Marcey Creek Ware, as an example, is not only tempered with crushed steatite, but is also hand-molded in the flat-bottomed and lug-handled style of the earlier carved steatite bowls (Manson 1948; Egloff and Potter 1982:95-97). Another steatite-tempered ceramic type is Seldon Island Ware which is instead characterized by a conical- shaped vessel form with cord-marked exterior surfaces. The significance of Seldon Island Ware, however, lies in the fact that it represents the first conical-shaped ceramic form which is generally characteristic of later types. Marcey Creek Ware is thought to date between 1,200 B.C. and 800 B.C. with Seldon Island Ware being slightly later in time. Recently, Waselkov (1982) has defined another early ceramic type, Bushnell Ware (fiber-tempered), through his excavations at Nomini Bay (Westmoreland County). Though Bushnell Ware has flat bottoms and lug handles, it differs from Marcey Creek Ware by being coil manufactured rather than hand-molded. Other Early Woodland wares that occur in southeastern Virginia include the flat-bottomed jars or "Beakers" described by Painter (1977, 1978) and Croaker Landing Ware (Egloff and Potter 1982:97).

Following the period of initial experimentation with ceramics, a number of sand-tempered wares appeared throughout southeastern Virginia and are reflective of sites dating between approximately 800 B.C. and A.D. 200. This relatively broad time range spans the latter part of the Early Woodland Period and reflects the general lack of temporal control over such conical, sand-tempered ceramics as Accokeek Ware, Popes Creek Ware and Stony Creek Ware (Egloff and Potter 1982:97-103). There is, however, limited spatial control over these wares with Popes Creek and Accokeek usually occurring north of the James River and Stony Creek to the south (Egloff and Potter 1982:99). Fortunately, there are a number of morphological features by which these otherwise similar ceramics can be distinguished such as surface treatment and paste qualities. Also occurring during this time period in southeastern Virginia is the pebble-tempered Prince George Ware characterized by

fabric and net impressed surface treatment with rim punctations (Evans 1955:60-64; Egloff and Potter 1982:103).

Settlement

Aside from the possible introduction of cultigens, the subsistence systems are similar to those observed for the Late Archaic. The settlement pattern suggested is the location of base camps on floodplains and terraces adjacent to major streams, with special purpose short term resource procurement camp sites in the interior uplands.

Diagnostic artifacts include Marcey Creek and Seldon Island soapstone tempered pottery, flat bottomed vessels and a variety of stemmed and side-notched points. Accokeek Creek grit and sand- tempered, cord-marked pottery and Popes Creek sand-tempered wares are the diagnostic types of pottery that represent the latter part of the period within the project area. Net-impressed sand-tempered ceramics were carbon-dated at A.D. 227 in an Early Woodland period nut roasting pit in Isle of Wight County (44IW88) (Traver 1991:125). This interior site was located on the headwaters of a stream on a hill with a very deep sand soil.

Ceramics are rare on interior resource procurement sites, which makes the analysis of these types of sites most difficult. Unless diagnostic tool types, such as Piscataway-like points or generalized types such as Fox Creek or Potts projectile points are present, assignment to the Early Woodland period usually cannot be made. Piscataway points are difficult to type in southeastern Virginia because of their similarity to the Morrow Mountain type. A small Morrow Mountain could be typed as a Piscataway and vice- versa.

Middle Woodland Period

The Middle Woodland period, A.D. 300 to A.D. 1000, saw the establishment of semi-permanent basecamps along major estuaries and tidal creeks, with resource procurement sites in the interior areas. Subsistence activities were seasonally-oriented and included "focal" hunting, fishing, gathering of shellfish, nuts, berries and some limited horticultural activity. Diagnostic traits include Mockley shell tempered ceramics; Piscataway, stemmed and notched, and large triangular projectile points; and single flexed and extended burials with grave goods.

By the second century A.D., shell-tempered ceramics had replaced the earlier sand-tempered wares throughout most of the circum- Chesapeake Coastal Plain. The earliest well-defined shell-tempered aboriginal pottery is Mockley Ware (excluding some shell-tempered "beaker" vessels of the Early Woodland) which has been dated from approximately A.D. 200 to A.D. 1000.

During this period, in the Middle Atlantic region, there is evidence of the participation of groups in extensive exchange/trade networks, the development of elaborate social relationships, changes in settlement pattern and site types, as well as the beginning of elaborate burial rituals. There is no evidence to show that local societies were participating in the above systems (Gardner 1982:65). During this period, "slash and burn" horticulture

begins to appear in the East between A.D. 500 and A.D. 1000. The evidence of this shows up in the pollen of the fallow field "invader" plants. Childrens' teeth in Eastern skeletal populations suggest that horticultural products (cooked corn and seeds) become an important part of the diet between A.D. 800 and A.D. 1000. It is during this period that large numbers of caries appear in the burial populations as a result of the presence of the gelatinized starches in the diet. Standardized sizes of cobs and seeds also appear during this time. Technological changes, including increased size and thickness of cooking vessels, occur. In some parts of the East, the addition of shell tempering appears to coincide with the introduction of large scale cooking of horticultural products (corn, beans and seeds) as part of the diet, the introduction of large storage pits, and digging equipment (hoes). The Mockley net-impressed and cord-marked shell-tempered pottery appears in Virginia between A.D. 200 and A.D. 900 (Opperman 1981; Gardner 1982).

Late Woodland Period

The Late Woodland period, A.D. 1000 to A.D. 1500, saw the establishment of permanent and semi-permanent agricultural villages and hamlets along major estuaries and tidal creeks, with special-purpose interior procurement camps. Subsistence was based on agriculture, supplemented by hunting, gathering and trade, and development of a redistributive economy.

By this time the bow has replaced the atlatl and the majority of projectile points are triangular, with early, large types that become progressively smaller through time. This period also saw the movement of base camps from sites which were oriented more toward fishing to bottomland and terrace sites along the major streams where cornfields could be planted. Traits of this period included Townsend series ceramics, triangular projectile points, tubular tobacco pipes, ossuary burials, long house structures and palisaded villages. The latter were built in response to the increased warfare resulting from larger populations and the accompanying social stress of territorial disputes. Villages might consist of 10 or more houses, which were of the long house variety. The protohistoric period, 1500 A.D. to 1675 A.D., saw a continuity of the above patterns, with the addition of historic trade goods included in the artifact inventory.

Townsend series ceramics consist of finely shell-tempered and fabric-impressed wares (Blaker 1963; Egloff and Potter 1982:107-109). Townsend Ware is also frequently decorated and the variation in decorative style has been found to have temporal significance (Griffith 1980). Townsend ceramics span the entirety of the Late Woodland Period and have been dated from approximately A.D. 945 to A.D. 1590 (Egloff and Potter 1982:109). Gaston Ware is a simple-stamped or sometimes plain surfaced ware that has pieces of angular quartz for temper (Egloff and Potter 1982:109). This ware has been defined as a proto-historic to historic form of the Cashie Simple-Stamped Type (Phelps 1980:76). It dated at post A.D. 1741 by Coe (1964) at Roanoke Rapids.

Historic Period

Contact Period (1600 - 1734)

In the sixteenth and early seventeenth centuries, the southeastern Virginia Coastal Plain (Chesapeake Bay drainage system) was dominated by the various Algonkian-speaking tribes of the Powhatan Confederacy (McCary 1957; Turner 1976; Feest 1978; Swanton 1979).

European contact with the native Indian tribes living in what is now the City of Hampton began before the English settled Jamestown. On April 30, 1607, the English made contact with the Indians at their village at Kecoughtan, which was located at the mouth of the Hampton River, on the east side (McCartney 1983:3; Taylor 1960:5; Tyler 1966:11). In December of 1607, the English returned to buy food for the starving settlers at Jamestown, and Captain John Smith stopped twice the following summer. Smith sought refuge from a storm at this village in December of 1608. The village was described as having "eighteene houses, pleasantly seated upon three acres of ground, uppon a plaine, halfe invironed with a great Bay of the great River" (Tyler 1966:38). The population of the village at that time was made up of 20 fighting men and their women and children, under Pochin, a son of Powhattan (Tyler 1966:84). The Indians had some 2,000 to 3,000 acres of cleared, arable land which would later be utilized by the English (Heffelfinger 1910:4; Sinclair 1957:6). The Kecoughtan Indians were forcibly removed from their village by Sir Thomas Gates in 1610, who seized their village and built two stockaded forts at the site: Fort Henry, on the east side of the river, and Fort Charles, which was located near Strawberry Banks (Tyler 1966:223).

Colonial Frontier (1607 to 1630)

Sir Thomas Dale, the new governor of the colony, arrived in 1611 and recommended that the Virginia Company repair and improve their three forts - Fort Henry, Fort Charles and Fort Algernon - in the Point Comfort area and build a large town in the vicinity of Kecoughtan. Although initially utilized as military outposts, the English had women, children, a minister and a "guest house" by 1616. In 1619, Kecoughtan sent two representatives to the first General Assembly at Jamestown. One of these representatives petitioned the assembly to change the name of the settlement to Elizabeth City, after the daughter of King James (Heffelfinger 1910:15). The settlers at Elizabeth City were not attacked during the Indian massacre of 1622. In 1624, the Virginia Company lost its charter and land distribution was taken over by the Royal Government. The earliest grants and patents in Elizabeth City involved land along the Hampton River, Back River, and the shores of Hampton Roads. William Claiborne, the Surveyor General, Treasurer of Virginia and Secretary of State, patented 150 acres, which included the present site of Hampton (Nugent 1983:6). In 1625, Elizabeth City was the largest community in the colony, with 359 men, women and children. Approximately 5,650 acres of Elizabeth City Corporation's lands were claimed by persons whose land was planted. Houses numbered 89, of which 24 were fortified (Hunter and Higgins 1989:11). In 1629, a court was created to handle the administrative duties for the corporation, which was divided into eight counties in 1634.

Colonial Settlement (1630 to 1750)

Tobacco was the main cash crop for the colonial planters of Elizabeth City County, as it was for the rest of Virginia, and large tracts of land were quickly cleared and planted. Between 1630 and 1660, with high prices for tobacco, the earliest Virginia planters made fortunes. Other agricultural pursuits included growing mulberry trees for silk production and raising grapes to make wine (Taylor 1960:11).

Many of the early homes built in the colony were temporary post-in-ground structures, but nearly all lands were given a name by their owner. Many of the patentees were literate and could read and write.

By the 1630s, settlement was being made on tracts of land along the Back and Poquoson Rivers and along Brick Kiln Creek. Settlers of the area that is now Langley Air Force Base included Benjamin Syms, 200 acres; John Laydon, 500 acres; John Moore 200, acres; George Hall, 340 acres; and Thomas Garnett, 200 acres (Langley Research Center 1974:1). By 1636, most of these lands had been patented. When Benjamin Syms died in 1635, the provisions of his will created the first free school in America. This consisted of his 200 acres of land and eight cows. By 1647, the property was described as "a free school, with two hundred acres of land, a fine house upon it, forty milch Kine and other accommodations" (Taylor 1960:12). John Laydon and his wife, Anne Burras, were the first couple married at Jamestown in 1608 and they also had the distinction of being the parents of Virginia, the first child of English parentage born in the colony (Holt 1985:7; Taylor 1960:11).

Most of the waterfront property on the lower peninsula had been settled up early, and most of the interior land as well. Most transportation between the peninsula and other parts of the colony was by water. Access to shipping lanes was necessary for the large landholders in order to transport the large amount of tobacco grown on their plantations. The restoration of the monarchy and the Navigation Acts of 1660 altered the social and economic structure of the colony by imposing heavy duties on the planters.

Following the restoration of King Charles II in 1660, there was a general depression in the colony. The colonists were moving westward up the James, York, Rappahannock and Potomac rivers, in their quest for land. Very large patents were soon given for political reasons and the old headright system was ignored. Governor Berkley had been returned to office at Jamestown and he was now issuing the patents, which ranged from 2,000 to 3,000 and sometimes as many as 10,000 acres. The value of tobacco had also declined. It could only be sold to English merchants who shipped it to England where heavy duties were imposed. To overcome the loss in revenue, more tobacco was raised, but this failed to produce the results desired. The next move of the colony was to restrict planting tobacco, but this resulted in a loss of revenue to the colony. Finally, there was an attempt to diversify agriculture and start new industries.

Because of this depression, many small landowners and indentured servants were dissatisfied. The latter were told their terms might be extended because of the need for labor. In 1663, a plot to start an insurrection was initiated in Gloucester County by some of

the servants and was supported by some of the small landowners. This plot was discovered and four of the ringleaders were hanged. In 1667, the Dutch entered the Chesapeake Bay, burning and capturing many tobacco ships. When they returned four years later, Governor Berkley called out the militia and two ships fought back. The Dutch left the Chesapeake Bay, sailed north and captured New York.

Indian raids in the northern part of the colony resulted in the killing of a number of settlers at this time, bringing terror to the frontier regions. Along with these troubles of the planters, Governor Berkley had seized dictatorial powers. The right to vote was limited to landowners and there was no new election for the Burgesses. The King also gave huge grants of remaining Virginia lands to Lords Arlington and Culpepper. Some planters were faced with confiscation of their holdings. In 1676, the colonists, led by Nathaniel Bacon, became openly resistant to the Governor's and royal authority (Cox n.d.:4).

Nathaniel Bacon, who had been in the colony only two years, and who owned land on the James River, enlisted colonists to fight the Indians. He subsequently led an expedition against the Susquehannocks and the Occaneechi Indians. Upon his return, he was declared a rebel by Governor Berkeley. Berkeley had ordered a new election and Bacon was elected to the House of Burgesses. Bacon was subsequently pardoned at Jamestown, but suspicious of Berkeley, Bacon returned to Jamestown with his followers and took over the Assembly. In June, Indians killed eight colonists along the York. Bacon sent his leaders to Gloucester to raise a militia and get supplies. Berkeley left Jamestown to gather forces from the large landowners who had resisted Bacon in Gloucester, calling him a rebel. Bacon moved against Berkeley and in July, Berkeley's forces deserted him, fleeing across the bay. Bacon then held a meeting at Middle Plantation (Williamsburg) to seek authority for his actions. The people agreed to resist British authority until Bacon's case could be heard. Bacon sent a ship against Berkley, who was on the eastern shore, but this ship was captured. Indians again attacked colonists north of the Mattaponi River and Bacon retaliated against the Indian town, capturing 45 Indians. In the meantime, Berkeley came up the James River and retook Jamestown. Bacon marched down with his forces and the captured Indians and entrenched in front of Jamestown. With him he had the wives of planters who were supporting Berkeley, including the wife of his cousin, counselor Nathaniel Bacon. When Berkeley withdrew, Bacon burned Jamestown. While the people proclaimed Bacon as a hero, a force from Stafford County, Virginia, under Colonel Giles Brent, was approaching with militia from north of the Rappahannock. Bacon moved north with a force to meet Brent. Brent's forces subsequently deserted him for Bacon. While Bacon was returning south, he became ill and died at Major Thomas Pate's house on the Poroportank.

Joseph Ingram succeeded Bacon. His main forces were at West Point, along the York, and several fortified houses along the James River (including Bacon's Castle). Major Robert Beverley, who commanded Berkeley's forces, captured one of the house forts. Berkeley moved up the James River and occupied Jamestown. He raised two forces which met the opposing Baconite force, under General Wakeman, and were defeated. Amnesty was promised by Berkeley to all except two of the leaders. Once Governor Berkeley resumed his powers, he ignored the terms of the amnesty (Cox n.d.:5). Many of Bacon's supporters were tried and hanged and their estates confiscated. The surplus of tobacco still existed. In 1682, another rebellion flared up, even though Berkeley had been replaced. The

same economic conditions and taxation brought about this second rebellion, which was characterized by a large amount of tobacco cutting to reduce the crop. Three of the rebels were hanged. After 1683, economic conditions improved and large landowners bought the property of their less fortunate neighbors. After 1715, land patents were infrequent. King William and Queen Mary became joint rulers, with a more liberal government.

Although records from the late seventeenth century are few, one deed, a 1676 repatent of John Moore's land in what is now the Langley Air Force Base, mentions the land of Mr. Thomas Wythe as bounding his property on the northwest side (Langley Research Center 1974:2). This Thomas Wythe was the great-grandfather of George Wythe, a signer of the Declaration of Independence. Researchers believe the Wythe plantation included the 200-acre plantation of Thomas Garnett. In Thomas Wythe's 1693 will, it was referred to as the place where they lived. Wythe had also purchased 204 acres along Brick Kiln or Wythe Creek in 1691, which was originally part of John Laydon's patent that was repatented by John Howitt in 1648 and passed to members of his family who eventually sold it to Edmund Swaney. This land was called Oares Plantation in 1697 and was inherited by George Wythe's father, Thomas, in 1694. This is considered to be the most likely birthplace of the patriot, George Wythe, in 1726 (Langley Research Center 1974:2). George's older brother, Thomas, inherited the plantation in 1729. George lived at the plantation until he was about 16, when he left to live with an uncle and study law. When his brother died in 1755, without children, George Wythe inherited the plantation (Langley Research Center 1974:2). Thomas Wythe had been a member of the House of Burgesses in 1718, 1723, and 1726. George Wythe was a member of the House of Burgesses from 1761 to 1766 and from 1768 to 1769 (Tyler 1922:38).

The first church in the Elizabeth City Parish had probably been established at Kecoughtan in 1610. In 1623/4, compulsory church attendance became law in the colony. The second Parish church was built east of the Hampton River in 1624 (Holt 1985:5). This church was abandoned in 1667 and had been pulled down by 1698. Duties of the parish included levying tithes to pay clergy and clerks, to build churches, to care for the poor and needy, the insane, and illegitimate children, to build and repair roads and bury the dead. Church wardens could bring moral offenders to justice. Other duties including the procession of parish lands, to provide works for roads, and to apprentice orphans or illegitimate children to learn trades.

With the commencement of construction of brick manor houses in the Georgian style about 1720, the plantation "great house" became the center of most rural activity in the colony. The "great house" or owner's dwelling house was usually a two story building. Cellars and basements were usual. Plantation manor houses of this period often had a central hall and perhaps eight large rooms, four on each floor, along with the pantry and closets. Wings were often added. Lawns were spacious and shady, with a kitchen and smokehouse in the rear and an office in front. The overseer's house stood a quarter to a half mile away. A line of slave cabins usually stood to one side in the rear. Most plantations had both open fields and woods. The latter furnished much of the materials for fence rails and lumber. Gardens were usually present at the rear of the "great house."

The use of Negro slaves became prevalent during this period. There were 6,000 Africans imported by 1700, but this number had increased to 12,000 by 1708. By 1730, there were at least 114,000 slaves in Virginia (Norris 1983:528). Tobacco was the money crop, but the price was low, and planters had to begin to diversify their crops by growing grain and livestock to feed the plantation staff. Slaves were generally housed in primitive huts with dirt floors and a fireplace at one end, but their overall welfare depended on the circumstances of their owners. While most slaves were field laborers, or workers at the main plantation house, others were taught trades such as carpentry, milling, weaving, blacksmithing and coopering. Food usually consisted of corn meal, bacon and molasses, and vegetables during the summer, along with whatever game or fish were available, and whatever they were allowed to raise (gardens and chickens) (Norris 1983:529). Slaves usually slept on a quilt on the dirt floor of their hut.

Colony to Nation (1750-1789)

During 1752, 156 ships cleared the port of Hampton bound for the West Indies, the British Isles, and ports in Europe and Africa. Foodstuffs, tobacco, wood products, and deer-skins made up a large part of the cargo. Imports included clothing, molasses, sugar, rum, wine, flax, hemp and cotton (Taylor 1960:14). General Braddock, commander of British forces during the French and Indian War, landed at Hampton in 1755 and went on to Williamsburg to seek volunteers for his army. He sailed on to Alexandria and disembarked his troops for their westward march to attack the French and Indians.

As noted above, one of the landowners in the project vicinity was George Wythe, who had inherited the 700-acre ancestral plantation, which he referred to as "Chesterville" (Langley Research Center 1974:3). Wythe evidently spent a great deal of time on his plantation, although he had a law practice in Williamsburg, and served as a Burgess and Clerk of the House of Burgesses. The plantation was his primary residence until 1775, when he and his wife, Elizabeth Taliaferro, inherited her father's house in Williamsburg. Wythe sold the plantation in 1792, when he moved to Richmond, but had to resell it in 1802 to Houlder Hudgins after Daniel Hylton, the original purchaser, defaulted (Langley Research Center 1974:3).

During the Wythe ownership, the plantation was used mainly for the production of tobacco, but later products included corn, wheat, and barley. Livestock on the plantation included cattle, sheep, horses, hogs, and oxen. Orchards were also present which produced apples and pears. Besides the Moores, who owned their property into modern times, the resident landowners of the area included the Ross, Francis, Parsons, Tabb, and Harwood families. The Wythes had leased the larger portion of the Syms Free School lands, and the school itself was located on a small part of the property thought to contain about half an acre (Langley Research Center 1974:3).

Relations with England deteriorated, and in 1774, the freeholders and inhabitants of Elizabeth City County chose delegates to attend the Congress of the British Colonies in America. During 1775, residents of the county and Hampton had frequently been deprived of slaves, poultry and swine by men under the command of Captain Matthew Squire, a subordinate of Lord Dunmore. Squire's sloop was driven into the Back River by a storm in

1775. While he was visiting ashore, residents of Hampton boarded his ship, seized the goods, and burned the sloop. In October 1775, Squire sent six armed ships to attack Hampton, but troops from Williamsburg were present and prepared to fight. An engagement occurred and two British were killed and two wounded. Several fires had been started in Hampton by the cannon attack of the British (Taylor 1960:17). Little subsequent action occurred in the vicinity of Hampton during the Revolution, except for occasional encounters between the colonial militia and British forces on their scouting forays. One such encounter, at Big Bethel, occurred on March 8, 1781. The county militia lost the battle (Wheaton 1991:23). Hampton was an important shipbuilding center during the Revolution, producing such ships as the "Gloucester" and the "Liberty." The latter ship was involved in 20 engagements.

Early National Period (1789-1830)

Hampton's importance as a port waned after American independence, because imported items were no longer required to pass through the custom house. Streets were described as deserted, with grass growing in them (Tayler 1960:18). During the War of 1812, Hampton was bombarded and sacked and the Elizabeth City County area was plundered (Wheaton 1991:26). Population of the county dropped from 3,450 in 1791 to 2,778 in 1800 (Wheaton 1991:26). Soils within the county were depleted from years of poor agricultural practices. Many lands had absentee landlords and many larger holdings were subsequently divided. The Syms and Eaton schools were allowed to sell their holdings and combine into a school located in Hampton. The new site was selected in 1805 (Tayler 1960:19). Construction of Fort Monroe was begun at Old Point Comfort in 1819. In 1820, a toll bridge company was established to build bridges in various parts of the county.

During the nineteenth century, there were three primary plantations located within the bounds of what is now Langley Air Force Base: Chesterville (700 acres); Cloverdale - composed of a number of smaller properties (600 acres); and Moorefield (225 acres), the hereditary Moore patent (Langley Research Center 1974:3). The Wythe property was subsequently owned by the Hudgins, Haller, Winder and Schmeltz families. Cloverdale properties included the Ross and School Lands, 100 acres of Chesterville and 50 acres of Moorefield. Houlder Hudgins owned the property from 1802 to 1815, and it was subsequently owned by James M. Vaughn from 1817 to 1850. About 1830, Vaughn built a two and a half story addition to the original plantation house at Cloverdale.

Antebellum Period (1830-1860)

Within the project vicinity, the Cloverdale plantation was split between the Vaughan and Smith families. Some of the Moorefield lands were sold in 1853, reducing the acreage to 162 acres.

Construction of Fort Calhoun (Fort Wool) was suspended in 1835 and did not commence again until 1858. This fort was built on an artificial island of stone on a shoal known as "Rip Raps" about a mile offshore in Hampton Roads (Tayler 1960:22). One of the officers that supervised the construction of early portions of the fort was a recent graduate of the Military Academy, Robert E. Lee. His first child was born at Fort Monroe.

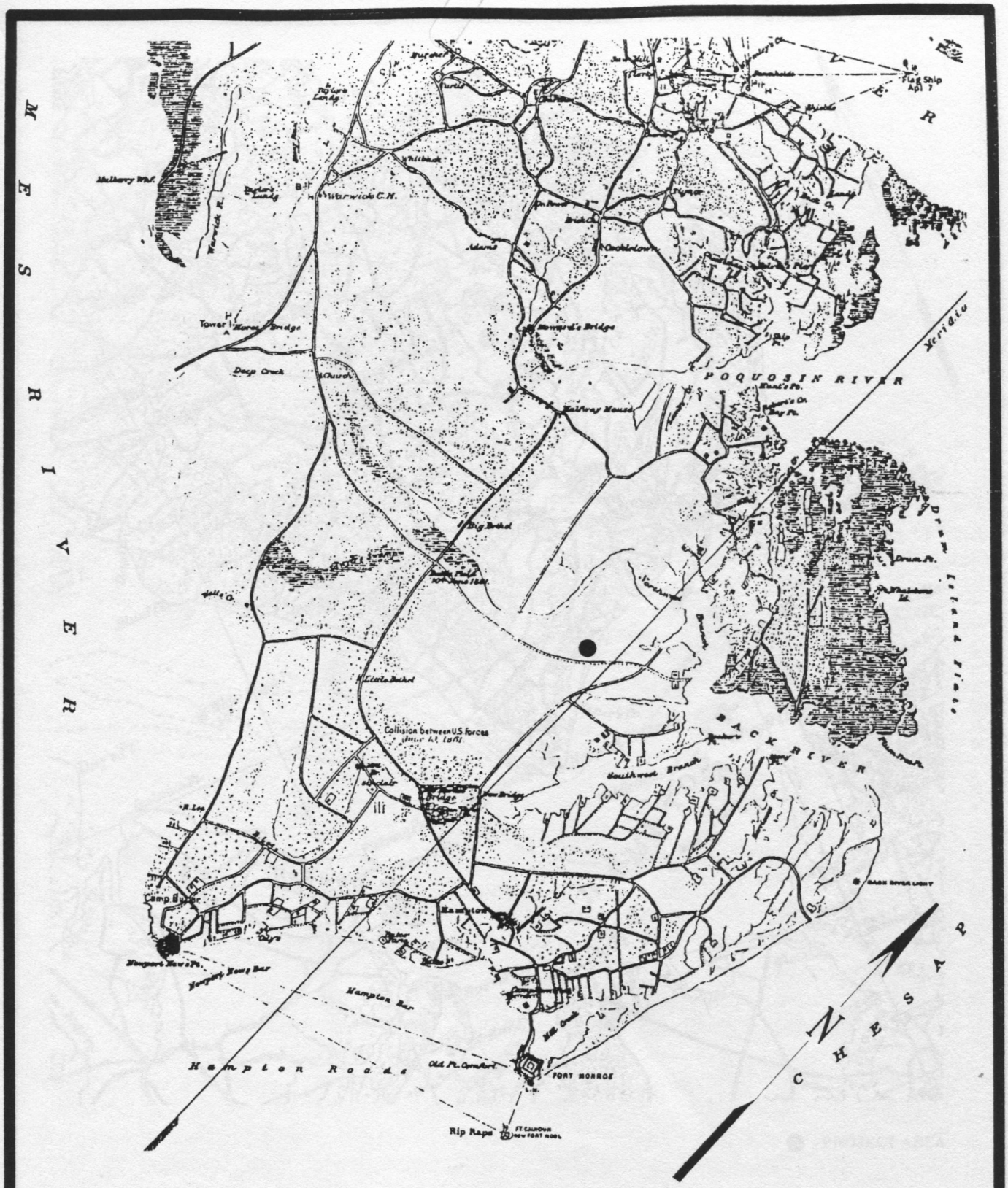
In 1840, the population of Elizabeth City County was 3,706, of whom 1,708 were slaves, 44 were free blacks, and 1,954 were white. By 1860, the population had increased to 5,798 (Tyler 1922:51).

A public school system was established in Virginia in 1845. Elizabeth City County joined the system in 1852. Hampton Academy, formerly Syms-Eaton School, was in this system until 1861, when it became a military academy for boys. During this period, Edmund Ruffin experimented with soil enrichment, and local farmers benefitted from his work. River pilots, fishermen, and plantation owners were productively occupied up to the time of the Civil War.

Civil War (1861-1865)

Virginia withdrew from the Union on May 23, 1861. Hampton had four militia companies mobilized. Troops from Fort Monroe were ordered to establish a camp outside the fort. Shortly after, the Virginia troops were withdrawn to Big Bethel to avoid an attack by the Federals. On June 10, 1861, Federal troops were repulsed at Big Bethel by Confederates under General Magruder **(Figure I-3)**. In August, there were rumors that the Federals planned to occupy Hampton, from which most families had fled in June. On August 7, the Confederate Old Dominion Dragoons, supported by an infantry company, entered the town and burned it to the ground. Most of the residents of Hampton were now exiled. Those not serving in the Confederate forces became homeless refugees dispossessed of their property (Tayler 1960:24).

Fort Monroe continued to be a Union stronghold in the heart of the Confederacy. Possession of this fortress by the North was of major strategic significance, since it was a major supply point and a point of debarkation for several Federal ventures **(Figure I-4)**. Hampton Roads was the scene of the historic battle between the ironclads - the "Virginia" (built on the hull of the Union frigate "Merrimac") and the Union ironclad "Monitor" (Taylor 1960:25). Their confrontation occurred during the early days of March 1862, after the "Virginia" had sunk the Union frigate "Cumberland" and had severely damaged the "Congress." It was at Fort Monroe in May 1862 that Lincoln decided Norfolk must be captured. Federal forces landed at Oceanview on May 9 and Norfolk surrendered on May 10, 1862. Camp Hamilton, a Union encampment, was established near Phoebus and Fort Monroe. Union gunboats controlled the James River and utilized it to move troops and equipment to City Point during the latter stages of the war. At the end of the war, Fort Monroe was the place of confinement for Jefferson Davis, President of the Confederacy. By 1865, Hampton was a jumble of shanties and campsites for refugee Negroes who had sought Federal protection. During the latter months of the war, former residents returned to Hampton to rebuild their homes. A new northern element also settled there at the conclusion of the war. When the war ended, the area was greatly depressed but the county began to rebuild its industries.



SOURCE: CAMPAIGN MAP NO.1, YORKTOWN TO WILLIAMSBURG,
PREPARED BY COMMAND OF MAJ. GEN. GEORGE B. McCLELLAN, USA 1862

● - PROJECT AREA

0 MILES 6

0 KILOMETERS 9

SCALE

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FIGURE I-3
1862 MAP OF LOWER PENINSULA

● - PROJECT AREA

SOURCE: UNKNOWN CAPT. MILITARY MAP OF SOUTHEASTERN VA. COMPILED NY U.S. COAST SURVEY IN 1864 FOLLOWING H. LINDENKOLH & CHS.G. KREBS, 1862. LIBRARY OF CONGRESS.

0 MILES 6

0 KILOMETERS 9

SCALE

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FIGURE I-4

1864 MAP OF LOWER PENINSULA

Reconstruction and Growth (1865-1917)

In 1867, the Elizabeth City County court commenced civil government in cooperation with nearby military authorities. A Freedman's Bureau was established at Hampton to assist and train ex-slaves in trades. A National Military Home was established at Hampton in 1874. The public school system resumed its business in 1872. A new courthouse was rebuilt in 1874. In 1884, another fire consumed the downtown portion of Hampton. Summer resorts became popular during the latter part of the nineteenth century, with boarding houses opening at Buckroe Beach. Old Point Comfort had served as a resort area from 1822, and a new resort hotel was built there in 1868. The population of the county in 1910 was 26,000, with 8,000 persons in Hampton (Tyler 1922:55). Shipbuilding was an important industry in Hampton and Newport News.

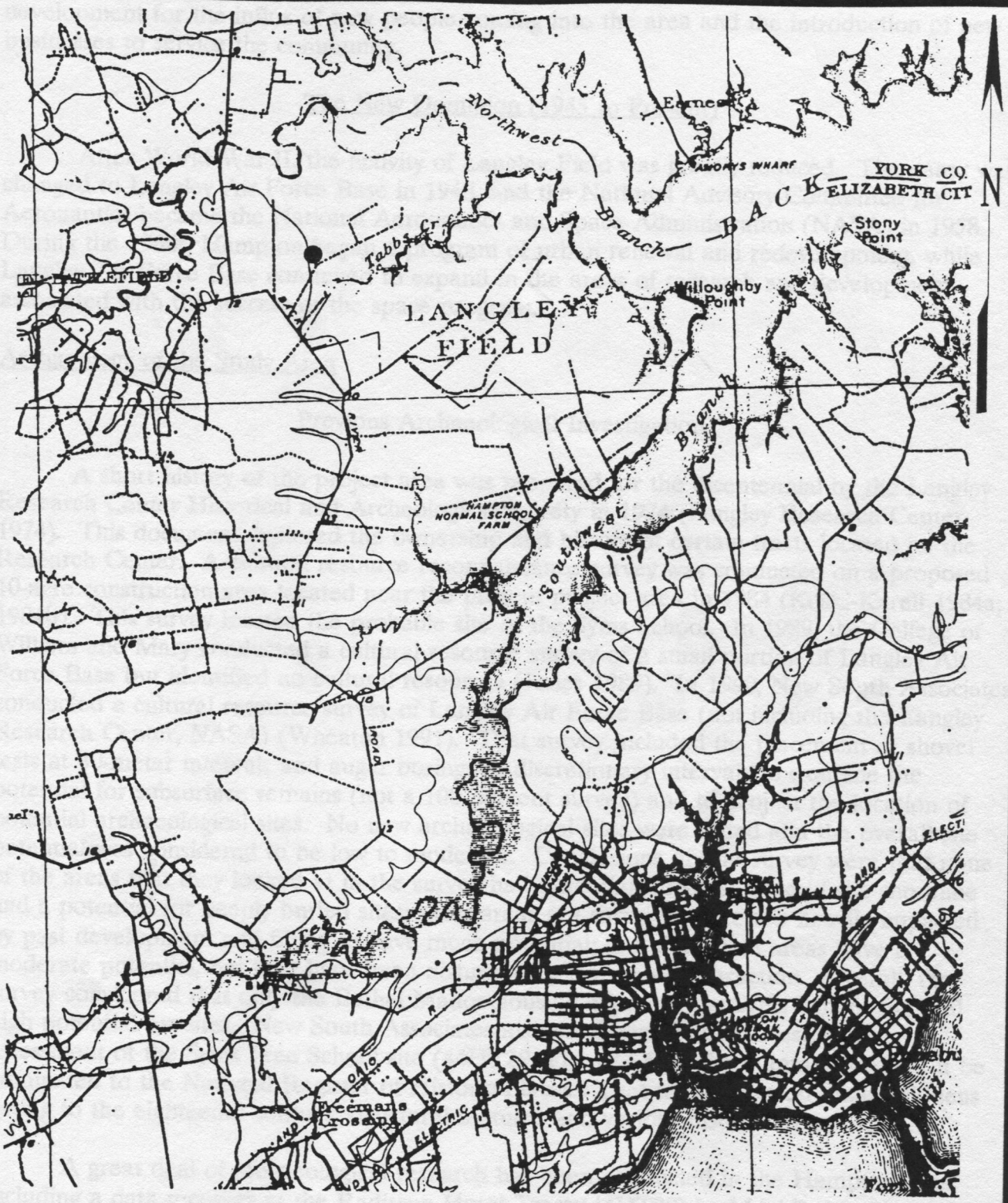
The introduction of electricity, streetcars, and extended railroad service to other areas on the James-York Peninsula, brought Hampton and Elizabeth City County into the twentieth century.

The area around the present Langley Air Force Base was still largely rural and was made up of several large farms in the Lamington, Poole, Collier, Moorefield and Tabb tracts (Jones 1989:32). In 1916, the U.S. government purchased 1,659 acres north of Hampton for the building of Langley Field (Jones 1989:31).

World War I to World War II (1917-1945)

Construction at Langley Field began in April 1917 (**Figure I-5**). A channel was dredged in the Back River and spoil was used to fill in the marsh. Trees and brush were removed and two dirt runways were constructed. Existing structures were utilized for housing facilities. Many permanent structures were in place by the time of the Armistice in 1918. The aviation section of the Signal Corps and the Naval Aviation School Squadron were the main tenants of the facility. The facility was utilized to train pilots and aerial observers, to teach aerial photography, film processing, and the interpretation of photographs. Flight training ended at Langley in 1919. Additions to the base and construction continued into the 1920s. Until 1921, when General Billy Mitchell conducted his famous bombing experiments, the fields had been farmed and fishing had continued in the Back River. A golf course was placed in the area of the old bombing range in 1926. The development of the Army Air Corps in the 1920s and 1930s strengthened Langley's use as an experimental facility. In 1933, the base was hit by a devastating storm surge from a hurricane, which caused severe damage to facilities. Concrete runways were built in 1938. The area was graded and drains were installed. The area around the runways were also filled and paved over. In the 1940s, the base was expanded and World War II brought an increased importance to the mission of the facility. This resulted in construction of new buildings, highways, water, sewer, and electric lines, as well as hangars and other aviation facilities (Wheaton 1991:39).

Hampton and Newport News benefitted greatly from the military buildup of the area during the two World Wars. The development of Langley and Fort Monroe, and the expansion of shipbuilding activities in Newport News, fostered an increase in housing



SOURCE: USGS TOPOGRAPHIC QUAD, HAMPTON, 1907 EDITION, REPRINTED 1925

0 MILES 2.5

0 KILOMETERS 4

SCALE

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FIGURE I-5

1925 MAP OF LANGLEY FIELD

development for the influx of new people coming into the area and the introduction of new businesses to service the community.

The New Dominion (1945 to Present)

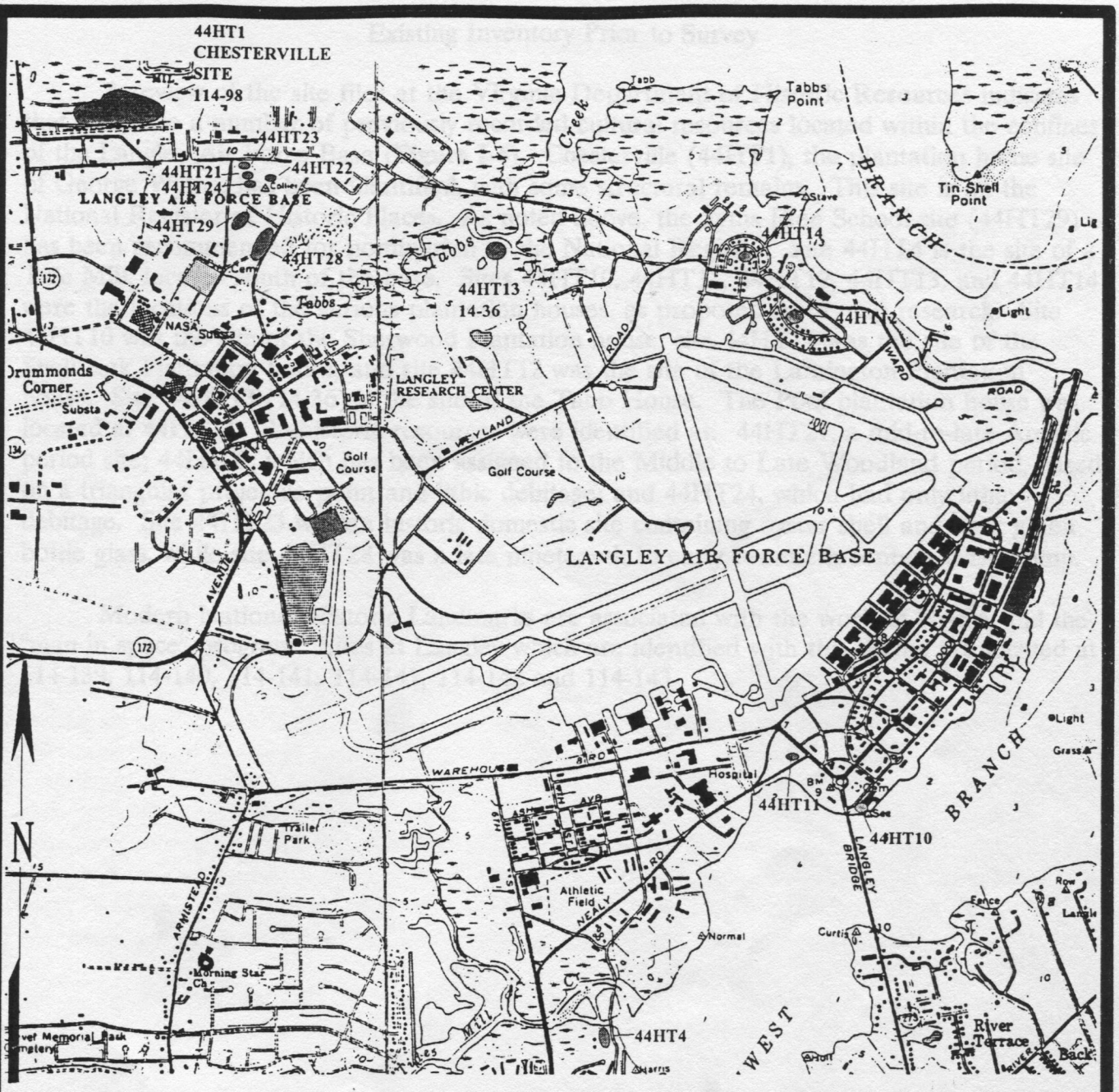
After World War II, the activity of Langley Field was greatly reduced. The name was changed to Langley Air Force Base in 1948, and the National Advisory Committee for Aeronautics became the National Aeronautics and Space Administration (NASA) in 1958. During the 1960s, Hampton began a program of urban renewal and redevelopment, while Langley Air Force Base continued to expand in the areas of research and development associated with the success of the space program.

Archaeology of the Study Area

Previous Archaeological Investigations

A short history of the project area was prepared for the bicentennial by the Langley Research Center Historical and Archeological Society in 1974 (Langley Research Center 1974). This document explored the ownership and history of certain tracts located on the Research Center. A cultural resource reconnaissance survey was conducted on a proposed 10-acre construction area located near the present project area in 1984 (Koski-Karell 1984a; 1984b). This survey located the probable site of the Syms School. In 1989, the College of William and Mary conducted a cultural resource survey of a small portion of Langley Air Force Base but identified no cultural resources (Jones 1989). In 1990, New South Associates conducted a cultural resource survey of Langley Air Force Base (not including the Langley Research Center, NASA) (Wheaton 1991). That survey included the placement of shovel tests at 30-meter intervals and auger borings at discretionary intervals to examine the potential for subsurface remains (not a 100 percent survey) and to project the location of potential archaeological sites. No new archaeological sites were found and the overall site potential was considered to be low to moderate. Conclusions of that survey were that none of the areas that they looked at in the survey had potential for sites; none of the shoreline had a potential for deeply buried sites; most areas not surveyed were too heavily impacted by past development and filling to have much potential; and that some areas have a moderate potential, but they have been disturbed by previous construction. Overall, the survey considered that only the Bethel Manor housing area and the Syms School site had high potential for sites. New South Associates also conducted Phase II testing and assessment of the Syms Free School site (44HT29; **Figure I-6**) and recommended that it be nominated to the National Register of Historic Places. That testing located intact middens dating to the eighteenth century, structural features and various discard areas.

A great deal of archaeological research has been conducted in the Hampton area, including a data recovery at the Radisson Hotel Tract (44HT20) by MAAR Associates, Inc. (Traver and Thomas 1989) and the 1989 archaeological investigations by the College of William and Mary at the proposed Virginia Air and Space Center and Hampton Roads History Center in the City of Hampton (Hunter and Higgins 1989).



- SITES
- PROJECT AREA
- MAN IN SPACE NATIONAL HISTORIC LANDMARK THEME 114-140, 141,142

SOURCE: USGS QUADRANGLE, NEWPORT NEWS NORTH, VA 1965 (PR1986); HAMPTON, VA 1965 (PR1980)

0 FEET 8000 0 METERS 2400 SCALE	MAI PROJECT: V-80 NASA LANGLEY RESEARCH CENTER
	FIGURE I-6 PREVIOUSLY IDENTIFIED CULTURAL RESOURCES

Existing Inventory Prior to Survey

A review of the site files at the Virginia Department of Historic Resources indicates that there are a number of previously recorded cultural resources located within the confines of the Langley Air Force Base (**Figure I-6**). Chesterville (44HT1), the plantation home site of George Wythe, has been identified, with some structural remains. This site is on the National Register of Historic Places. As noted above, the Syms Free School site (44HT29) has been recommended for nomination to the National Register. Site 44HT4 is the site of a Tide Mill, located south of the base. Sites 44HT10, 44HT11, 44HT12, 44HT13, and 44HT14 were the locations of the various plantation houses, as proposed from map research. Site 44HT10 was the site of the Sherwood Plantation house; site 44HT11 was the site of the Shellbank Plantation house; and site 44HT12 was the site of the Lamington Plantation house. Site 44HT13 (14-36) is the site of the Tabb House. The Pool plantation house was located at 44HT14. Prehistoric resources were identified at: 44HT21, a mid-to-late Archaic period site; 44HT22, which has been assigned to the Middle to Late Woodland period, based on a triangular projectile point and lithic debitage; and 44HT24, which had only lithic debitage. Site 44HT23 was an historic domestic site containing oyster shell and dark green bottle glass, while site 44HT28 was a late nineteenth to early twentieth century trash dump.

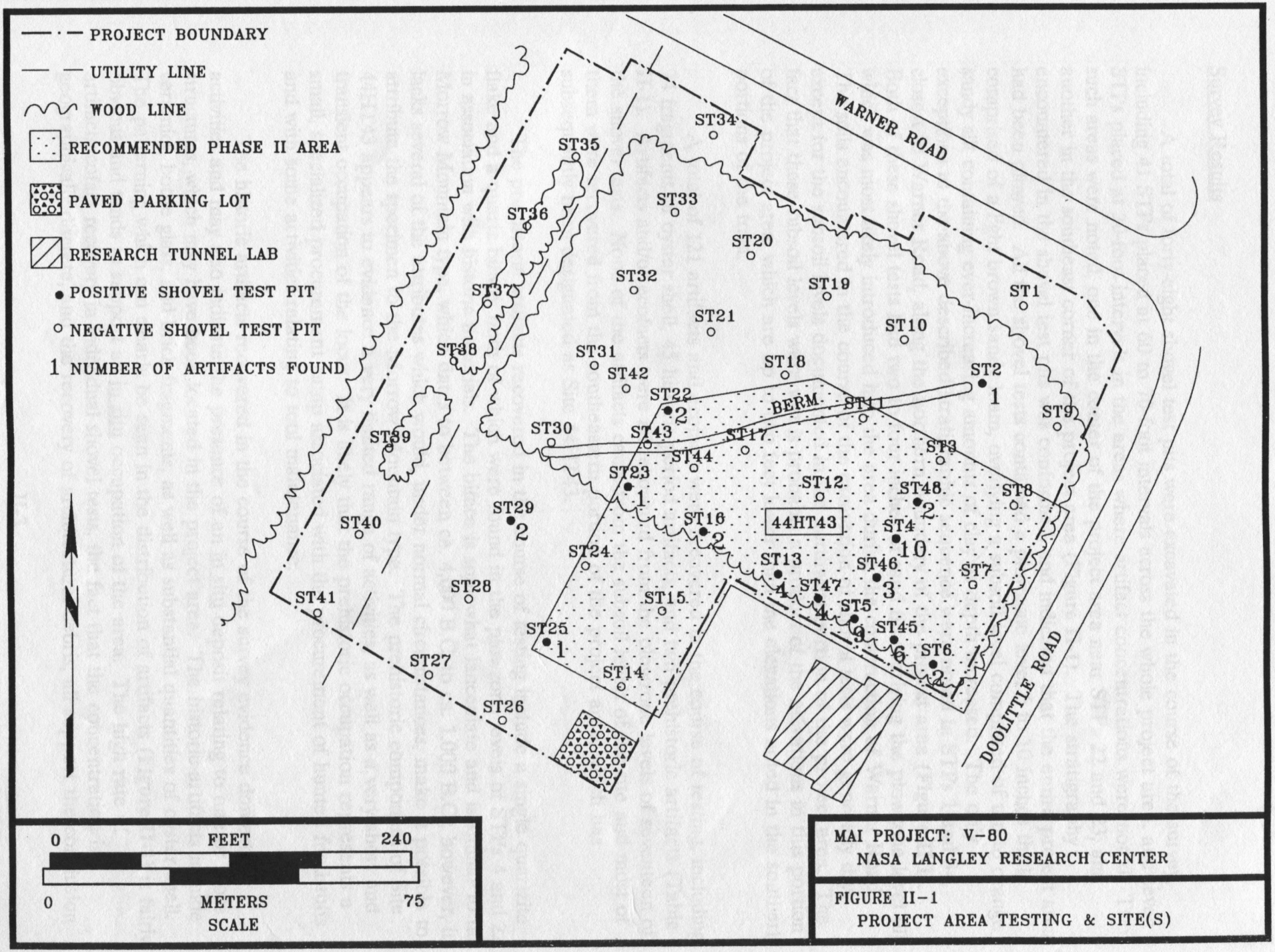
Modern National Historic Landmarks are associated with the work of NASA and the "man in space" program. Sites at Langley which are identified with this theme are located at 114-139, 114-140, 114-141; 114-141, 114-142 and 114-143.

DATA BASE

Methods of Data Recovery

The methods employed in the course of the survey consisted entirely of subsurface testing, since there were no surface exposures in the project area. The entire area consisted of pasture, low scrub, and woodlot, which did not afford adequate visibility for the location and identification of cultural resources. Testing began with the establishment of an excavation grid over the whole parcel, with shovel test pit (STP) transects spaced at sixty and seventy foot (18 to 22 meters) intervals (**Figure II-1**). The grid was taped in using existing fence lines and roads as reference points. English rather than metric units of measurement were used in view of the fact that an historic site was known to be located adjacent to the project area, and it was therefore thought that the focus of the investigation was likely to be on historic, as opposed to prehistoric, resources. After the grid was established, 18-inch diameter shovel test pits were excavated by hand, at each of the grid points. Shovel test pits were excavated stratigraphically at least three (3) inches to "culturally sterile" subsoil levels, and all hand excavated soil matrices were screened through 1/4 inch hardware cloth to insure standardized artifact recovery and comparable data sets. After the initial excavation of systematically placed shovel tests was completed, artifact and ecofact distributions were plotted on the base map to see if discernible concentrations could be identified. After noting several such concentrations, additional shovel test pits were excavated at thirty (3) foot intervals in order to recover larger samples of culturally, functionally and temporally diagnostic artifacts. Shovel test pit stratigraphy was recorded on appropriate log forms and soils were described in terms of texture, composition and color using standard Munsell designations. Additional recordation included field notes containing comments on methods, field conditions, observations and results, as well as photodocumentation. All shovel test pits were backfilled after recordation. No severe constraints affecting the execution and/or the results of the field testing were encountered in the course of the investigation.

Additional methods of data recovery employed in the course of the investigation pertain to historic documentation and to the processing and analysis of recovered archeological materials. Historic research was undertaken at the Virginia Division of Historic Resources and the Virginia State Archives in Richmond, the Library of Congress and the National Archives in Washington, D.C., and at the Virginia Historical Society and the library of William and Mary College. The types of documentation which were reviewed included archeological literature and secondary histories of the study area, state site files, and National Register listings for both archeological and architectural resources, as well as cartographic data. Processing and analysis of archeological materials included the washing, cataloguing, inventory, and identification of artifacts and ecofacts, followed by the analysis of the assemblage in terms of function, distribution, and likely cultural affiliation and temporal data.



MAI PROJECT: V-80
NASA LANGLEY RESEARCH CENTER

FIGURE II-1
PROJECT AREA TESTING & SITE(S)

Survey Results

A total of forty-eight shovel test pits were excavated in the course of the survey, including 41 STPs placed at 60 to 70-foot intervals across the whole project area, and seven STPs placed at 30-foot intervals in the areas where artifact concentrations were noted. Two such areas were noted, one in the center of the project area near STPs 22 and 23, and another in the southeast corner of the project area (**Figure II-1**). The stratigraphy encountered in the shovel test pits was conformed, and indicated that the entire project area had been plowed. All the shovel tests contained a plowzone level 6 to 10 inches thick, comprised of a light brown sandy loam, overlying a subsoil level comprised of tan to orange sandy silt containing ever-increasing amounts of clay as depth increased. The only exceptions to the above described stratigraphic sequence were noted in STPs 1 and 34, closest to Warner Road, along the northern boundary of the project area (**Figure II-1**). Both of these shovel tests had two to four inches of sand fill overlying the plowzone level fill, which was most likely introduced into the area during the construction of Warner Road. The soils encountered in the course of the excavation of shovel tests were generally dry, except for the subsoil levels documented in the northwest portion of the project area. The fact that these subsoil levels were wet is probably a product of the elevations in this portion of the project area, which are up to two feet lower than the elevations noted in the southerly portions of the tract.

A total of 121 artifacts and ecofacts were recovered in the course of testing, including 74 fragments of oyster shell, 45 historic period artifacts, and two prehistoric artifacts (**Table II-1**). Artifacts and/or ecofacts were all recovered from the plowzone levels of seventeen of the shovel tests. None of the artifacts came from the subsoil levels of the site and most of them were recovered from the southeastern portion of the project area, which has subsequently been designated as Site 44HT43.

The prehistoric artifacts recovered in the course of testing include a single quartzite flake and a quartz biface, both of which were found in the plowzone levels of STPs 4 and 22, in association with historic materials. The biface is somewhat lanceolate and is similar to the Morrow Mountain type, which dates to between ca. 4,000 B.C. to ca. 1,000 B.C.; however, it lacks several of the attributes which would, under normal circumstances, make it possible to attribute the specimen to the Morrow Mountain type. The prehistoric component of Site 44HT43 appears to evidence a very limited range of activities, as well as a very short and transient occupation of the locus. It is likely that the prehistoric occupation represents a small, specialized procurement camp associated with the procurement of hunted foodstuffs and with some activities relating to tool maintenance.

The historic artifacts recovered in the course of the survey evidence domestic activities and may also indicate the presence of an in situ deposit relating to one or more structures, which may have been located in the project area. The historic artifacts include ceramics, bottle glass, and brick fragments, as well as substantial quantities of oyster shell. The patterning which can clearly be seen in the distribution of artifacts (**Figure II-1**) is fairly obvious and tends to support an in situ occupation of the area. The high rate of artifact/ecofact recovery in individual shovel tests, the fact that the concentration is geographically discrete, and the recovery of architectural debris, all support the conclusion

TABLE II-1: Artifacts and Ecofacts from Site 44HT43

SHOVEL TEST PIT NO.	EARTHENWARE Cr.	Stff.	Tin.	Red.	STONEWARE Rhe.	Slt.	Misc.	BOTTLE GLASS	PREHISTORIC Bf.	Flk.	Br.	OYSTER SHELL
2								1				
4				2	1					1	5	4
5				1		1		2			5	24
6	1										1	
7												1
12												8
13											4	2
14												4
16											2	
22									1		1	
23	1											
25											1	3
29											1	1
45			1				1				4	
46		1				1					1	12
47								4				15
48				1				1				
TOTALS	2	1	1	4	1	2	1	8	1	1	25	74

KEY TO ABBREVIATIONS:

Br.	=	Brick fragments
Cr.	=	Creamware
Stff.	=	Staffordshire
Tin.	=	Tin-glazed (Delft)
Red.	=	Redware
Rhe.	=	Rhenish (Westerwald)
Slt.	=	White salt-glazed
Bf.	=	Biface
Flk.	=	Flake

SUMMARY OF ARTIFACTS AND ECOFACTS

Historic Artifacts	=	45
Prehistoric Artifacts	=	2
Ecofacts	=	74
TOTAL	=	121

that the material represents a potential in situ deposit, as opposed to a field scatter, which would be represented by lower densities of artifacts, spread out over a larger portion of the project area.

The diagnostic ceramics recovered in the course of testing include the glazed earthenware, Staffordshire, creamware, Rhenish stoneware, and white salt-glazed stoneware, which tends to indicate an occupation period sometime in the mid-eighteenth century, no earlier than ca. A.D. 1720 and no later than ca. A.D. 1780. The bottle glass fragments, although small, all tend to support an eighteenth century attribution for the assemblage.

The known historic site which was located south of and adjacent to the project area is believed to represent the archeological remains of a plantation called Cloverdale, built by the Hudgins family after they acquired the property in ca. A.D. 1801. The deposits located in the project area clearly predate the Hudgins occupation, and most likely represent the remains of an earlier homestead, which may or may not have been standing when Hudgins bought the property from the Wythe family. In any case, the portion of Site 44HT43 located in the project area would have been created during the period of ownership by the Wythe family. Given that the Wythe's plantation house was located on another portion of the property, away from the project area, it is not likely that the archeological deposits in the project area can be linked directly to a member of the Wythe family. It is probable, however, that Site 44HT43 may be associated with the occupation of the locus either by a slave belonging to. or a tenant farmer working for the Wythe family.

Based on the preliminary data obtained for Site 44HT43, it is likely that the site has a relatively high degree of integrity and research potential. While the prehistoric component of the site is not believed to have the potential for yielding additional data beyond that which was recovered in the course of the current survey, the historic component is believed to be potentially significant and is therefore potentially eligible for nomination to the National Register of Historic Places. The historic component of 44HT43 may offer insights into the settlement patterns associated with eighteenth century plantations, land use in the eighteenth century, data on the foodways of the site's occupants, as well as on patterns of consumption, and finally, data on the socio-economic status of the occupants.

SUMMARY AND RECOMMENDATIONS

Summary

The Phase I survey described herein involved the testing of a small L-shaped four-acre portion of the NASA Langley Research Center. The survey consisted of field testing and historic documentation designed to LOCATE and IDENTIFY all the cultural resources contained in the project area. The field survey involved the excavation of forty-eight shovel tests placed systematically and judgmentally across the entire project area. A total of 121 artifacts and ecofacts were recovered from the plowzone levels of seventeen of the shovel tests. The artifacts were mostly recovered from the southeastern portion of the project area and evidenced both prehistoric and historic period use of the area, which has subsequently been designated by the VDHR as Site 44HT43. The prehistoric component of the site probably represents a transient specialized procurement camp, which lacks physical integrity and has little or no research potential, while the historic period component has at least moderate integrity and a high degree of research potential.

The historic component appears to date to the mid-eighteenth century, and may represent the remains of a slave or tenant farmer occupied homestead on the property, which, at the time, belonged to the Wythe family. George Wythe, the owner of the property, was a prominent citizen of Virginia and a signer of the Declaration of Independence. Site 44HT43 is potentially significant, owing to its integrity and research potential, as well as its association with a prominent Virginia family. It is the opinion of the investigators that the site is potentially eligible for nomination to the National Register of Historic Places and that additional investigations of the site are warranted.

Recommendations

Based on the data obtained for Site 44HT43, it is the considered opinion of MAAR Associates, Inc. that Site 44HT43 is potentially significant, and should be subjected to a Phase II Evaluation survey. The primary objective of a Phase II survey would be to assess the eligibility or non-eligibility of the site for nomination to the National Register of Historic Places. Secondary objectives of the survey should include the following:

1). Obtain accurate horizontal and vertical boundaries for the site;
2). Obtain additional data pertinent to component identification;
3). Establish the integrity of the archeological deposits comprising the site;
4). Obtain objective data on the research potential of the site;
5). Obtain sufficient data for the formulation of a research design and a testing strategy, for the site if it is determined to be significant and Register-eligible.

The Phase II survey recommended for Site 44HT43 should include the following elements: historic documentation should be supplemented with research into primary documents, starting with deeds, wills, inventories and other types of probate records,

Orphan's Court and Sheriff's Sale records, and lists of taxables. Additional field testing should start with the excavation of shovel test pits placed at thirty foot intervals throughout the archeologically sensitive area depicted on **Figure II-1**. Three to four five by five foot test units should then be hand-excavated near those shovel tests which exhibit the highest densities of artifactual materials and/or those shovel tests which indicate the presence of features. Unit excavation should then be followed up with machine stripping of 5 to 10% of the high density portions of the site, so as to locate and expose features and other types of in situ deposits. It is anticipated that approximately 1,200 square feet of area will need to be stripped. Stripped areas should be cleaned and all exposed features should be mapped and photographed. Small test units may be excavated in features in order to assess the depth of archeological deposits and also to obtain data on the likely function of features as well as on the state of preservation of organic remains.

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APPENDIX A

ARTIFACT INVENTORY

Cat. #	Provenience	Quantity	Description
1	STP 2	1	Black glass, wine bottle base, hand blown
2	STP 4	1	Rhenish stoneware fragment
		2	Redware fragments
		5	Brick fragments
		4	Oyster shell fragments
		1	Flake, quartzite
3	STP 5	1	White salt-glazed stoneware fragment
		2	Black glass bottle fragments
		1	Redware fragment
		24	Oyster shell fragments
		5	Brick fragments
4	STP 6	1	Creamware fragment
		1	Brick fragment
5	STP 7	1	Oyster shell fragment
6	STP 12	8	Oyster shell fragments
7	STP 13	4	Brick fragments
		2	Oyster shell fragments
8	STP 14	4	Oyster shell fragments
9	STP 16	2	Brick fragments
10	STP 22	1	Biface, quartz, teardrop, Late Archaic/Early Woodland
		1	Brick fragment
11	STP 23	1	Creamware fragment
12	STP 25	3	Oyster shell fragments
		1	Brick fragment
13	STP 29	1	Oyster shell fragment
		1	Brick fragment
14	STP 45	1	Tin glaze earthenware fragment (Delft)
		1	Brown stoneware fragment
		4	Brick fragments

Cat. #	Provenience	Quantity	Description
15	STP 46	1	Staffordshire fragment
		1	White salt-glazed stoneware fragment
		12	Oyster shell fragments
		1	Brick fragment
16	STP 47	2	Black glass fragments
		2	Clear glass fragments
		15	Oyster shell fragments
17	STP 48	1	Redware fragment
		1	Black glass bottle fragment

APPENDIX B

3.0 TECHNICAL PROPOSAL

3.1 Research Strategy

The research and management goals of the investigation will be accomplished through the implementation of the following research strategy which consists of four (4) tasks, which will be performed sequentially and consecutively. These tasks include Background Research and Preparation, Field Investigations, Data Analysis and, Report Preparation.

3.1.1 Task 1 - Background Research and Preparation

The background literature review will consider the past occupation of the study area and proposed corridor during both the prehistoric and historic periods. A review of pertinent secondary environmental, archeological, and historical literature will be undertaken. This will be focused on the establishment of cultural contexts pertaining to the immediate project area and will allow the interpretation of survey findings against patterns postulated for the region in general. For historic period resources, the research will focus on secondary sources and will make extensive use of cartographic data.

Task 1 will also consist of a preliminarily reconnaissance of the project area, designed to stratify the project area into zones of cultural resource sensitivity to eliminate from further consideration, those portions which are obviously disturbed. At this time, informants likely to have information pertinent to the past land use in the project area, will be interviewed. The end product of the background research will be a sensitivity model applicable to prehistoric and historic period settlement practices.

3.1.2 Task 2 - Field Investigation

The examination proposed herein will consist of two components, surface collecting and subsurface testing, each of which will be applied as appropriate based on the sensitivity models developed as part of Task 1 Background Research. Low potential areas will be subjected to superficial examination sufficient to confirm this designation. Verification of low potential and/or disturbance will consist of photodocumentation and occasional shovel testing to obtain stratigraphic data. Examination, for the most part, will be conducted in those areas rated as having moderate to high potential for containing archeological sites. The examination will employ standard archeological methods, including surface and subsurface investigations. Surface collections will be conducted in areas where visibility is at a minimum, in the 40 to 60% range and only when there is no potential for deeply buried cultural deposits.

Subsurface testing will be used in all areas having at least moderate potential and will consist of two components; a sampling scheme utilizing a systematic approach, and a judgmental component. Systematic testing to be conducted as part of the Phase I survey will consist of the excavation of shovel tests at twenty (20) meter intervals. An additional sample of shovel tests will be reserved

for judgmental testing. These tests will be excavated at the discretion of the Principal Investigator, in those areas where sites are located and in areas where the potential for cultural resources is high.

3.1.3 Task 3 - Data Analysis

All artifacts recovered through the archeological portion of the Field Survey will be processed in the field and at the MAAR Associates, Inc. office in Williamsburg. Recovered artifacts will be thoroughly washed, cleaned and stored in heavy-gauge polyethylene bags. Archival quality (acid- free) catalog cards will be inserted into each bag on which provenienced information will be recorded in indelible ink. All culturally and/or functionally diagnostic artifacts will be catalogued. All artifacts will be stored in archival quality boxes. These standards will follow curation guidelines of the Division of Historic Resources in anticipation of possible donation or permanent loan of the collection to the state following the completion of the study. A complete inventory of all recovered artifacts will be prepared.

Following completion of the artifact inventory, the recovered assemblage from each identified site will be assessed for cultural data, possibly including date and function of occupation, cultural association, and settlement patterning. This information will contribute to the interpretation of the past occupation of the survey area as well as the study area in general. All identified archeological sites will be recorded on the appropriate Maryland Site Survey forms, and site forms for previously recorded sites will be revised.

3.1.4 Task 4 - Report Preparation

Report preparation will be an ongoing activity throughout the course of this investigation as the recovered data permits. The report will include sections on cultural history, methods, and survey results, and will present preliminary evaluations of significance, integrity and research potential for each resource locus located. The report will also present specific management recommendations for sites. Text and citation style will follow the guidelines of the Society for American Archeology. The draft and final Technical Report will include professionally prepared illustrations utilizing project base maps provided by the client. Other illustrations, including photographs, will be included as appropriate types of supporting evidence. The preparation of all photographic illustrations will utilize screening or half-tone reproduction in order to insure high-quality reproduction. The text will be prepared using letter quality word-processing hardware. Three (3) copies of the draft technical report and three (3) copies of the final technical report will be provided to the client, as well as one (1) unbound camera ready with original plates for submission to VDHR.

Task 4 will also include preparation of a Management Summary, to be provided to the client immediately after completion of Task 2

Field Investigations. This task will also include final curation of all project records and data.

3.2 Deliverables

1. Virginia Site Survey Forms
2. OSD complex base map with Archeological Sites
3. Management Summary (3 copies)
4. Draft Technical Report (3 copies, bound)
5. Final Technical Report (3 copies, bound)
6. Final Technical Report (1 original, unbound)
7. Field Notes
8. Black & White negatives, prints and contact sheets

3.4 Project Schedule*

From receipt of written Notice to Proceed:

ACTIVITY:	COMPLETION WITHIN:
Task 1 - Background Research	5 Days
Task 2 - Field Investigations	10 Days
Submit Management Summary	12 Days
Task 3 - Data Analysis	5 Days
Submit Draft Technical Report	30 Days
Submit Final Technical Report	15 Days of review
Task 4 - Report and Curation	15 Days of review

* The above proposal schedule does not include time for client and agency review.

APPENDIX C

VIRGINIA
DIVISION OF HISTORIC LANDMARKS
RESEARCH CENTER FOR ARCHAEOLOGY
ARCHAEOLOGICAL SITE INVENTORY FORM

County City of Hampton, Virginia Map Sheet Newport News North, VA Site Number 44HT43

Name of Site: Site Number: 44HT43

Type of Site: Historic, domestic
Prehistoric campsite

Cultural Affiliation: 18th C.
Middle Archaic

State/National Register Status:

USGS Map Reference: USGS topographic quad, 7.5' series, Newport News North, VA 1986

U.T.M. Zone 18 Easting 376995 Northing 4106205
(Attach photocopy of appropriate section of USGS 7.5 minute series topographical map showing site boundaries.)

Owner/Address/Telephone: NASA Langley Research Center, Hampton, VA.
Tenant/Address/Telephone:
Site Informant/Address/Telephone:

Surveyed By (name, address, affiliation, date): MAAR Associates, Inc.
5682A Mooretown Rd.
Williamsburg, VA 23185

General Environment and Nearest Water Source: Site is located in a nearly level wooded area on Langley Air Force Base, NASA Research Center, bounded by a fairly recent building on the south and Doolittle Road on the east. A berm and a picnic area are located north and west of the site. Headwaters of Tabb Creek originate in the north end of the project area, about 100 feet from the site.

Dimensions of Site: 300 feet north/south, 250 feet east/west.

Site Description and Survey Techniques: Shovel tested at 60 foot intervals, closed to shorter interval in sensitive areas. A total of 41 shovel tests in 3.74 acre project area. Historic materials recovered in 14 shovel tests in a discrete area in the southeast corner of survey area. Artifacts from secondary deposit in well-developed plow zone. Large number of oyster shell associated with a number of 18th C. ceramics, bottle and brick fragments, as well as a minor amount of prehistoric material.

Condition and Present Land Use:
Wooded and utilized for picnic area. Site of proposed OSD Industrial Complex.

Specimens Obtained and Depository:
21 brick fragments, 74 oyster shells, 6 dark green wine bottle fragments; 1 Rhenish stoneware sherd; 2 white saltglazed sherds; 1 Staffordshire sherd; 4 red bodied coarse earthenware sherds; 2 creamware sherds; 1 delftware sherd; 1 brown stoneware sherd, 2 clear glass fragments; 1 white quartz Guilford projectile point, 1 quartzite flake.

Specimens Reported and Owners/Addresses:

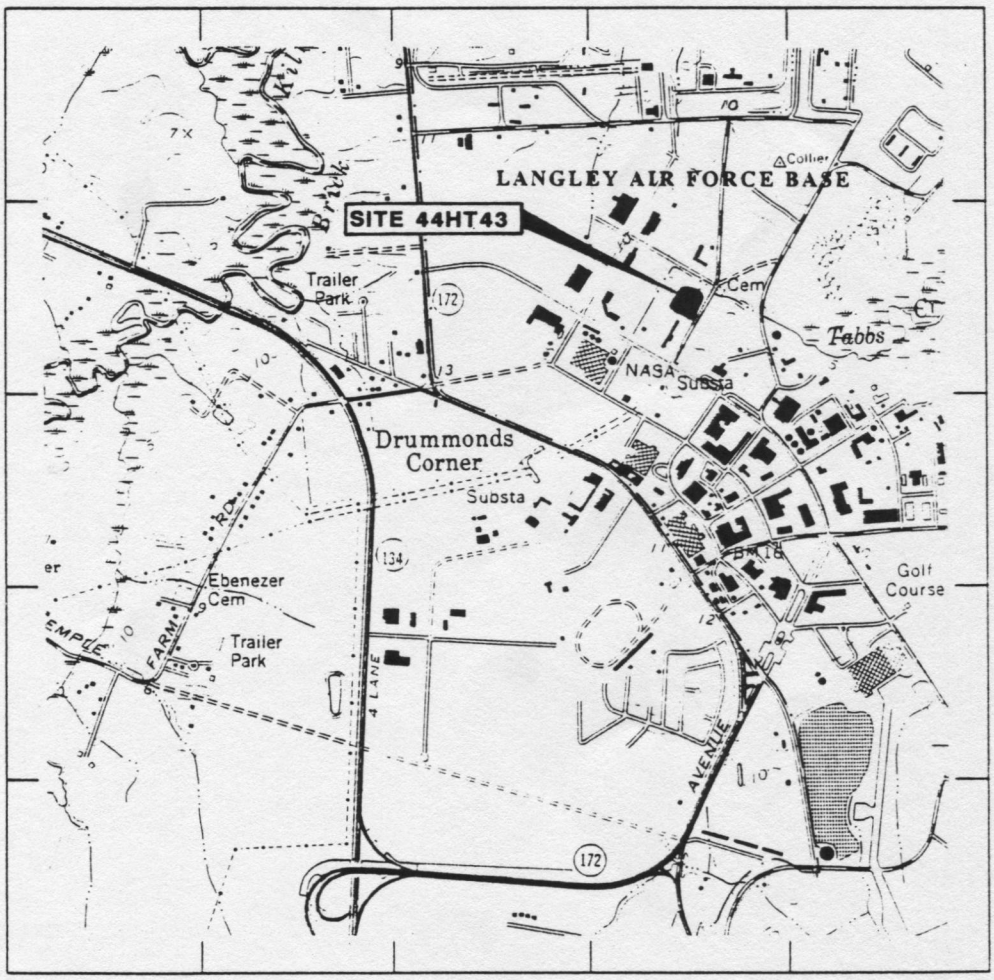
Other Documentation (field notes, survey/excavation reports, historical accounts and maps, etc.) and Depository:

Field notes on file at MAAR Associates, Inc., Williamsburg, VA.
Phase I Cultural Resource Survey of the Proposed OSD Industrial Complex Site, NASA Landley Research Center, Hampton, Virginia. Jerome D. Traver and Robert Hoffman, MAAR Associates, Inc. 1992

Photographic Documentation and Depository:

Recommendations: Phase II Testing and Assessment.

Additional Comments: Frank Farmer of NASA Langley Research Center observed historic foundations and archaeological materials being disturbed during construction of the building located south of the site.



Scale: 1" = 2,000'

Form Completed By (name, address, affiliation, date): Jerome D. Traver July 1992
MAAR Associates, Inc.
5682A Mooretown Rd.
Williamsburg, VA 23185

DHL Number Assigned By: Date: